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CATALOG
1968-1970

FOUNDED 1962
SANFORD, N.C.

CENTRAL CAROLINA TECHNICAL INSTITUTE

CALENDAR FOR 1968

JANUARY

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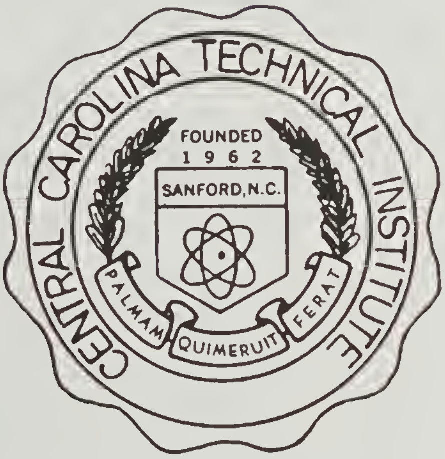
CENTRAL CAROLINA TECHNICAL INSTITUTE



GENERAL CATALOG

1968 - 1970

ROUTE 2, BOX 27, SANFORD, NORTH CAROLINA 27330
PHONE (919) 775-4249

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A Message from the President:

The express objective of the Central Carolina Technical Institute is to prepare its students for lifelong success. Our staff and faculty are dedicated to the belief that all persons should have available the opportunity to further their education. This belief is acted upon by offering courses from basic reading and writing to advanced technology.

Any adult is welcome regardless of age, previous education, race, or creed. Every attempt is made by the Institute to offer courses of study which provide for each individual student's needs, interests, and abilities.

We have selected a faculty which combines the best in academic, industrial, and professional experience. Every faculty member continues his education so that the student will receive the quality instruction necessary for success.

Our physical plant is comparable to the best. Modern, well-facilitated shop, laboratory, and classroom space is available for the many specialties offered. A variety of training aids are available to permit the practice and demonstrations needed to complement instruction.

Our doors are open. I invite you to enter this institution. With a desire for more knowledge and a dedication to work, you will leave here prepared for a more successful future.

Sincerely,

W A Martin

W. A. Martin
President

SCHOOL CALENDAR 1968-1969

FALL QUARTER

Registration & Orientation	September 9-13, 1968
Classes Begin	September 16, 1968
Last Day for Late Registration	September 23, 1968
Thanksgiving Holidays	November 27, 28, 29, 1968
Examinations	December 2, 3, 4, 1968
Fall Quarter Ends	December 4, 1968

WINTER QUARTER

Registration	December 5 and 6, 1968
Classes Begin	December 9, 1968
Last Day for Late Registration	December 16, 1968
Christmas Holidays	December 23-January 1, 1969
Examinations	March 3, 4, 5, 1969
Winter Quarter Ends	March 5, 1969

SCHOOL CALENDAR 1969-1970

FALL QUARTER

Registration and Orientation	September 8-12, 1969
Classes Begin	September 15, 1969
Last Day for Late Registration	September 22, 1969
Thanksgiving Holidays	November 26, 27, and 28, 1969
Examinations	December 1, 2, and 3, 1969
Fall Quarter Ends	December 3, 1969

WINTER QUARTER

Registration	December 4 and 5, 1969
Classes Begin	December 8, 1969
Last Day for Late Registration	December 15, 1969
Christmas Holidays—December 22-January 1, 1970	
Examinations	March 2, 3, 4, 1970
Winter Quarter Ends	March 4, 1970

SPRING QUARTER

Registration	March 5 and 6, 1970
Classes Begin	March 9, 1970
Last Day for Late Registration	March 16, 1970
Easter Holidays	March 27 and 30, 1970
Examinations	May 25, 26, 27, 1970
Spring Quarter Ends	May 27, 1970

SUMMER QUARTER

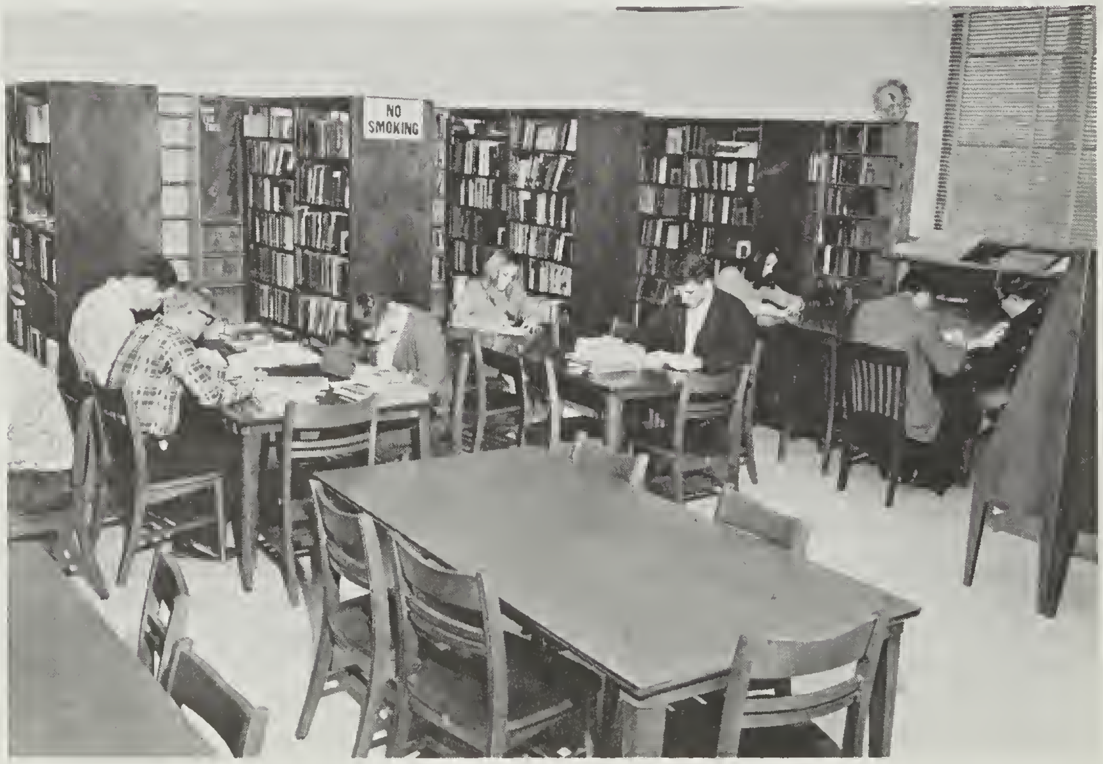
Registration	May 28 and 29, 1970
Classes Begin	June 1, 1970
Last Day for Late Registration	June 8, 1970
Vacation	June 29-July 3, 1970
Examinations	August 19, 20, 21, 1970
Summer Quarter Ends	August 21, 1970

SPRING QUARTER

Registration	March 6 and 7, 1969
Classes Begin	March 10, 1969
Last Day for Late Registration	March 17, 1969
Easter Holidays	April 4 and 7, 1969
Examinations	May 26, 27, 28, 1969
Spring Quarter Ends	May 28, 1969

SUMMER QUARTER

Registration	May 29 and 30, 1969
Classes Begin	June 2, 1969
Last Day for Late Registration	June 9, 1969
Vacation	June 30-July 4, 1969
Examinations	August 20, 21, 22 1969
Summer Quarter Ends	August 22, 1969



Library

BOARD OF TRUSTEES

Appointed by Board of Commissioners	**Term Expires**
James F. Bridges, Owner Deep River Used Car Lot Route 5, Sanford, N.C.	June 30, 1973
R. A. Currie, Agriculture Teacher Broadway High School Broadway, N.C.	June 30, 1975
Meigs Golden, Sales Manager Roberts Company McCracken Heights, Sanford, N.C.	June 30, 1969
William B. Joyce, President Sanford Tobacco Company Route 1, Sanford, N.C.	June 30, 1971
Appointed by City Board of Education	
John D. Von Canon, Vice President Sanford Furniture Company Route 4, Sanford, N.C.	June 30, 1973
Harvey C. Faulk, Farmer Route 6, Sanford, N.C.	June 30, 1971
Appointed by County Board of Education	
Douglas H. Wilkinson, President Wilkinson Cadillac-Oldsmobile, Inc. Sanford, N.C.	June 30, 1975
Stacy Budd, Owner Budd's Master Tire Service Route 3, Sanford, N.C.	June 30, 1969
Appointed by Governor Don Moore	
Robert W. Dalrymple, Farmer Route 7, Sanford, N.C.	June 30, 1969
John J. Marshall, President Sanford Finance Corporation 309 N. Gulf Street Sanford, N.C.	June 30, 1973
Lewis C. Lawrence, Vice President Carolina Country Ham House PO Box 56, Sanford, N.C.	June 30, 1975
Robert E. Brickhouse, Plant Superintendent Sanford Brick & Tile Company Hamilton Road, Sanford, N.C.	June 30, 1971

ADMINISTRATIVE STAFF

W. A. Martin	President	Apprentice School, Newport News Shipbuilding & Dry Dock; B.S., Industrial Education, N. C. State University; M.Ed., N. C. State University
Aaron B. Upchurch	Director of Vocational-Technical Programs	B.S., N. C. State University; M.Ed., N. C. State University
Shepherd Rice	Director, Adult Education and Extension Programs	A.B., Ouachita University; M.Ed., UNC at Chapel Hill
Elbert C. Price	Business Manager	Graduate, Kings Business College; B.S., N. C. State University
F. Hubert Garner	Director of Student Personnel	A.A., Mars Hill, B.S., Clemson University; M.S., Clemson University
Edwin A. Bell	Coordinator, Evening Programs	A.B., Mercer University; B.D., Andover-Newton Theological Seminary; M.A., Columbia University

FACULTY

Kenneth W. Ayscue	Automotive Mechanics	
T. A. Baroody	Electronics	B.S., Electrical Engineering, UNC at Chapel Hill
Esther T. Burke, R.N.	Practical Nurse Education	Rex Hospital
Jerry A. Burnette	Agriculture Technology	A.A., Spartanburg Jr. College; B.S., M.S., University of Tennessee
James C. Brown	Director, Veterinary Medical Technology	B.S.A., D.V.M., University of Georgia; M.P.H., UNC at Chapel Hill
Edward K. Dunn, Jr.	Mathematics	B.S., East Carolina University
Robert Ray Epley, Jr.	Machinist—Tool Maker	Apprentice School, Newport News Shipbuilding & Dry Dock Company
A. Dent Feimster	Telephone Job Safety Training	
Edward J. Fox	Machinist—Tool Maker	
Roy B. Greene	Business Administration	B.S., M.A., Appalachian State University
Charles D. McLeod, Jr.	English—Communicative Skills; Adult Basic Education Coordinator	A.A., Lees McRae College; B.S., East Carolina University
Barbara O. McNeill	Evening Librarian	B.S., East Carolina University
Donald W. Patten	Automotive Mechanics	B.S., N. C. State University

Mary B. Patten B.A., King College	Fundamentals Learning Laboratory Evening Coordinator
Gloria H. Peele, R.N. B.S., University of N. C. School of Nursing	Practical Nurse Education
Tom M. Pemberton A.M.I. University of Wisconsin	Industrial Maintenance Mechanics—Electromechanical
Robert W. Sawyer B.S., Campbell College	Fundamentals Learning Laboratory Coordinator
Lewis B. Smith B.S., East Carolina University	Physical Sciences—Drafting
Norma M. Smith A.B., UNC at Greensboro	Librarian
Rufus Walker B.A., Wake Forest College	Coordinator, Harnett Youth Center
Percy W. West, Jr. B.S., N. C. State University	Drafting & Design
Majorie Whittenton, R.N.	Practical Nurse Education

OFFICE PERSONNEL

Libby T. Boggs	Secretary, Student Personnel Office
Gloria C. Cheatham	Secretary, Telephone Job Safety Training Program
Nellie L. Cox	Secretary, MDTA Programs
Gail P. Luck	Secretary—President
Eugenia T. Peele	Secretary, Adult Basic Education Programs
Ruth W. Trogdon	Bookkeeper
Mattalene P. Wicker	Secretary, Curriculum Programs
Judy C. Williams	Secretary, Adult Education and Extension Program

MAINTENANCE AND CUSTODIAL STAFF

R. F. Suddarth	Supervisor
Colon Petty	Janitor
Henry Smith	Janitor

STUDENT SUPPLY STORE

Norman C. Calcutt	Store Manager

THE INSTITUTE

The Central Carolina Technical Institute is a tax supported, public non-profit school under the control of a local Board of Trustees. It was established under provisions of the General Statutes of North Carolina, Chapter 115-A, passed by the Legislature in 1963. It is supervised by the Department of Community Colleges, North Carolina State Board of Education. Members of the faculty are specially trained, qualified instructors with many years of experience in their chosen craft or profession. Each member of the administrative and teaching staff meets the standards of the Department of Community Colleges. Although established primarily for North Carolina residents, the Institute accepts students from other states.

The institution originated as Lee County Industrial Education Center and held its first classes on September 17, 1962. On October 2, 1965, the State Board of Education and the Advisory Budget Commission authorized elevation to technical institute status with authority to award Associate of Applied Science Degrees.

Central Carolina Technical Institute is a member of the American Association of Junior Colleges. The American Veterinary Medical Association and the American Animal Hospital Association recommends the Veterinary Medical Technology program to prospective students.

Over 57,000 square feet of classroom, shop, and laboratory space is located on a twenty-six acre site on Kelly Drive off Nash Street near U.S. Highway #421 (east), Sanford, North Carolina. Ample equipment, a large library, and an efficient staff provide optimum training in a variety of adult programs in technical-vocational, general, and community service fields.

PURPOSE OF THE INSTITUTE

The purposes of Central Carolina Technical Institute are:

1. To prepare young men and women to meet specific job requirements for initial employment.
2. To provide vocational or technical education for employed men or women who wish to advance in their jobs.
3. To provide the education necessary to meet high school equivalency requirements for those who did not complete high school in the public school system.
4. To enable our citizens to acquire knowledge and skills which contribute to social, economic, and cultural growth.

WHAT TECHNICIANS AND CRAFTSMEN DO

Technicians work on a team with engineers, scientists, supervisors, and skilled craftsmen, converting theories and ideas into products and processes. The technician is the pivot-man on this team. The vocational craftsman actually provides the skilled manpower for the job.

Technicians participate in research and development. They assist in designing and perfecting machines, processes, materials, and services for our increasingly complex world of work. They consider why things work as well as how things work. They work with their minds as well as with their hands. Technician jobs frequently require the ability to apply scientific principles and to solve design, process, or service problems. Other technical jobs demand extensive knowledge of laboratory equipment, procedures, and techniques. The craftsmen manipulate machines and tools to bring the job to completion.

WOULD YOU LIKE THIS WORK?

Your school interests and the things you like to do outside the classroom should help you decide whether you want to be a technician. Are you interested in electronics? Did you ever take machinery apart to find out how it worked.? Have you enjoyed the practical activities of your science laboratory and shop courses? Do you have aptitude in mathematics and problem-solving? Does the space age hold fascination for you? If your answers are basically "yes," you may enjoy working as a technician or trained craftsman.

YOUR OPPORTUNITIES

Technician jobs are increasing at a faster rate than any other occupational group—a 50 percent increase is expected within 5 years. More than 100,000 technicians will be needed each year; schools now graduate only 25,000 per year. It is expected that our increasingly complex technology will require craftsmen with higher levels of skills.

A technician's earnings depend upon his education, his technical specialty, and his work experience. Starting salaries for the majority of post-high school technical graduates in 1967 ranged from $4800 to $6000 per year. Most technicians can look forward to a significant increase in earnings as they gain experience.

ADMISSION REQUIREMENTS

General

The Central Carolina Technical Institute maintains an open-door admission policy for all applicants who are high school graduates or are school leavers 18 years old or older; with selective placement in the different curriculums within the institution, such selective placement to be determined by the officials of the institution based on the admission requirements stated hereafter.

Application for Admission

Persons wishing to take courses at the Institute must file application for admission. Application forms may be obtained by writing or calling Central Carolina Technical Institute, Route 2, Box 27, Sanford, North Carolina 27330, Telephone Sanford 775-4249.

Procedure

Upon approval by the Admissions Committee, the student is notified by letter. In order to keep the application current, it is necessary that the student send in a $10.00 pre-registration deposit. The deposit will apply toward the first quarter tuition and assures the student a reservation in his chosen curriculum. This deposit is not refundable unless the curriculum fails to materialize.

EXPENSES

Tuition Fees

Each student enrolled full-time or part-time in credit courses shall be charged an instructional fee of $2.50 per quarter credit-hour; provided, the maximum charge shall not exceed $32 for any quarter. Tuition for out-of-state students shall be 2½ times the regular charge of $32.

Instructional fees are due prior to entering the student's first scheduled class. Students enrolled in noncredit courses are charged fees to cover instructional materials. These fees vary with the nature of the course.

Late Registration Fee

A late registration fee of $3.00 will be charged all students who register after classes begin.

Refund Policy

Tuition refund for students shall not be made unless the student is, in the judgment of the institution, compelled to withdraw for unavoidable reasons. In such cases, two-thirds (⅔) of the student's tuition may be refunded if the student withdraws within ten (10) calendar days after the first day of classes. Tuition refunds will not be considered after that time. Tuition refunds will not be considered for $5.00 or less, except if a course fails to materialize. The $10.00 preregistration deposit, which applies on the tuition for full-time curriculum students, is not refundable, except if the curriculum fails to materialize. In cases where courses or curricula fail to materialize, all of the student's tuition shall be refunded.

Textbooks

Students are required to purchase their textbooks. The Institute operates a bookstore from which books and other required materials and equipment may be purchased. The cost of these items varies with the program of instruction.

Student Insurance

Certain risks are inherent in any work involving regular contact with mechanical and electrical equipment. While stringent precautions will be taken to insure safety, it is felt to be in the best interests of all students to provide some measure of insurance protection.

A group policy providing the desired insurance protection will be maintained in effect by the Institute and all students will be requested to subscribe to such coverage. The cost of accident insurance to the student will be $2.50 per year. Nonhazardous extension classes are excluded from this requirement.

Breakage Fees

Breakage, damage, or loss due to negligence, carelessness, or other mishandling of school supplies, materials, or equipment by students is the responsibility of such students. They will be required to pay for such items and may be subject to disciplinary action.

Business Office

Payment of fees; sale of books, supplies, and materials; receipt of loans; and payment of refunds are major responsibilities of the business office. Students may avail themselves of these business facilities between 8:00 A.M. and 4:30 P.M. daily, Monday through Friday, excluding holidays.

Business services are also available to night students between 6:00 P.M. and 9:00 P.M. daily, Monday through Thursday, excluding holidays.

GRADES AND SCHOLARSHIPS

Grading System

The Central Carolina Technical Institute operates on a required-subject quality point system in the curriculum areas, with the provision that all subjects must be completed with satisfactory grades if the student is to be awarded a certificate of completion or diploma. The grading system set forth below is followed for all subjects in curriculum areas. Some Extension, Fundamentals Learning Laboratory, and Adult Education Programs are not graded except as to "completed" or "not completed"; others follow the curriculum grading system.

Letter Grade	*Meaning*	*Quality Points Per Credit Hour*
A	Excellent	4
B	Good	3
C	Average	2
D	Marginal	1
F	Failure	0
P (Grade)	Passed by proficiency test or re-examination	
I	Incomplete*	
WP	Withdrew Passing	
WF	Withdrew Failing	

* Incomplete due to no fault of the student; i.e., sick at examination time, deficient in outside work with valid excuse. This grade must be eliminated by the end of the following quarter or it becomes F.

Explanations

Any student who fails a course within two quarters of graduation and who fails only one course during that quarter may apply to the Director of Student Personnel for permission to remove that failure by standing for re-examination on the total subject matter of the course.

Scholarship Standards

Every student must pass all prerequisite courses before advanced courses may be undertaken.

To carry a full-time load, a student must have a quality average of at least 1.0 after the first quarter, 1.5 after the second, and 2.0 after the third. A full-time load means a minimum quarterly course load of: vocational/trade—12 quarter hours; technical (associate degree programs)—16 quarter hours.

A student is scholastically eligible for graduation when he has completed all required courses in the respective curriculum with an overall average of 2.0. The student must also have a 2.0 average in his major area.

Graduates will be awarded appropriate evidence of completion in all areas.

Scholarships

Certain organizations, individuals, and industrial firms offer scholarships to worthy students. These vary from year to year, both in number available and value.

Deep River P.T.A.—$100 Scholarship

Awarded by the P.T.A. of Deep River School to a sentor of that school who has enrolled at Central Carolina Technical Institute.

Sanford Lions Club—Five $100 Scholarships

Awarded by the Sanford Lions Club to students who are residents of Lee County attending Central Carolina Technical Institute.

Board of Trustees—$120 Scholarship

The trustees of Central Carolina Technical Institute have set up $120 to be used as a scholarship for a worthy student.

Administration—$100 Scholarship

A tuition scholarship for a worthy student has been set up by the administration of Central Carolina Technical Institute.

Sanford Woman's Club—$100 Scholarship

The Sanford Woman's Club has given, from time to time, a $100 scholarship to a deserving nursing student.

Additional information on scholarships can be obtained from Student Personnel Office.

Work-Study

Part-time employment may be available at the Institute for the student who wishes to have an income while attending school. The funds for the work-study program are made available through the

Federal Government. Application for work-study must be made through the Student Personnel Office.

Loans

College Foundation, Inc., a private, non-profit education corporation chartered in 1955, administers the James E. and Mary Z. Bryant Foundation Student Loan Plan. Applications are available from the Director of Student Personnel.

A loan fund for Practical Nursing Education Students has been created by the Lee County Unit, American Cancer Society. The fund will provide up to $200.00 for tuition and supplies. It is available with no interest if repaid within 12 months after the student leaves school.

Transfer Credit

Transfer credit from other institutions within the Department of Community Colleges will be accepted, provided the course has been passed with a grade of "C" or better and provided such course is required by Central Carolina Technical Institute for graduation.

Other transfer credit and credit from proficiency examinations will be accepted, not to exceed 50% of the required and elective subjects, provided that the source and nature of such credit is approved by the Director of Student Personnel and the Director of Vocational-Technical Instruction.

Honor Students and Honor Graduates

A student will be announced as an honor student if he is enrolled in a full-time curriculum and receives all "B's" or higher during a school quarter. Students graduating with an average of 3.0 or higher will be announced as honor-graduates.

Reports

Report cards will be mailed at the close of each quarter to students 21 years of age or older, and to parents or guardians of students under 21 years of age.

Readmittance

When a student withdraws because of illness or financial reasons, he may re-enter at the beginning of a quarter which offers courses for which he is eligible.

Attendance

Students are expected to attend all scheduled classes for which they are registered. Although special circumstances may cause a student to be absent, regular attendance is essential to satisfy regular course objectives.

All absences will be evaluated by the instructor of the class which the student has missed. Individual instructors will determine whether absences are excused or unexcused.

Students who anticipate an absence should contact their instructor before the class meets. Should this prior notice to the instructor be impossible, the student should expect to explain his absence upon his return to class.

All work missed during absences must be made up. Failure to make up work which is missed will adversely affect the student's final grade point average for the course. To receive credit for a course, a student must attend 75% of class and 75% of lab hours.

Punctuality

Students are expected to be in their seats and ready for instruction at the sounding of the bell announcing the class. Deficiencies in this area will not be tolerated. Excessive tardiness will be dealt with in a manner similar to that for absences.

Withdrawals

A student who wishes to withdraw from school during the academic year should write to the Director of Student Personnel advising him of reasons for withdrawing. This will protect the student's scholastic records and his rights to re-enroll and transfer credits.

CONDUCT AND STANDARDS

The Central Carolina Technical Institute has a genuine concern for the integrity of all students enrolled. Students are required to conduct themselves in a mature and responsible manner.

The following rules apply to all students who are enrolled in this institution:

1. Each student is held responsible for information published through notices and announcements placed on bulletin boards.
2. Students who negligently lose, damage, destroy, sell, or otherwise dispose of school property placed in their possession or entrusted to them will be charged for the full extent of the damage or loss and are subject to disciplinary action.
3. Under no conditions will alcoholic beverages or liquors be permitted in or on the school property. No one under the influence of alcohol or narcotics will be allowed on school premises. Any violation of this regulation will result in expulsion from the Institute on the first offense.
4. Students who engage in such acts as stealing, gambling, profane language, personal combat, and possession of fireams and dangerous weapons are liable to disciplinary action.
5. Smoking is prohibited in all classrooms, laboratories and shops *at all times*. Smoking is permitted in the student lounge, outside the building, and in the halls.
6. "Cleanliness is the sign of intelligence." Students are expected to make use of the disposal containers in the halls and in shops and classrooms at all times.
7. Students are expected to dress appropriately for the occasion.
8. Students are asked not to bring children to class with them.
9. Students will remember that when entering and leaving the school parking areas they must always proceed with caution. Never exceed 10 M.P.H.
10. Drinking of soft drinks, milk shakes and coffee, eating of food, is allowed only in designated areas. Drinks and food

should be kept within the limits.

11. Vehicles for transportation to and from the Institute will park only in designated areas. Vehicles will be operated safely, moderately, and courteously. The speed limit on the campus is 10 M.P.H. Vehicles will be registered with the Business Office at the first occasion they are used on campus grounds.

STUDENT ACTIVITIES AND SERVICES

The Central Carolina Technical Institute makes every effort to surround the student with activities and services conducive to intellectual growth. In return, the student is expected to conform with established policies and devote his efforts to his personal improvement and the good of the institution. The following is a brief statement of the activities and services available to the student.

Student Council

Legislative, executive, and judicial authority, insofar as student affairs are concerned, is the responsibility of the student council. The student council members are elected in school-wide elections by each curriculum class. The student council works under the supervision of the Institute administration and serves as the organ of the students in their relations with the officials of the Institute. Elections are usually held the first week in October.

Newspaper

The C.C.T.I. News is published weekly by the student council and is available to the student body through the Student Personnel Office. The cost of the newspaper is included in the student activity fee and is free of additional expense to the students.

Annual

The *Cencaro* is published by the annual staff made up of students, and is available to all students. The approximate cost of the *Cencaro* is $5.00. A deposit of $3.00 is taken with each order and the balance is due upon delivery of the annual.

Rings

Rings are usually ordered in the fall quarter by students scheduled for graduation the following spring or summer. Cost of the rings vary, depending on the weight and other factors. The average cost is $25.00 to $40.00. A deposit of $10.00 is collected when rings are ordered.

Special Events

Occasionally the Student Council may sponsor other activities such as socials, films, speakers and related activities that will be educationally and culturally uplifting to the students. When such occasions arise, students are notified in advance and encourage to participate.

The Student Lounge

The Institute operates a student lounge which provides dispensing machines or service for soft drinks, coffee, sandwiches, candy, and cigarettes; a pay telephone for personal telephone service; and tables and benches for eating and relaxing during vacant periods during the school day.

STUDENT PERSONNEL SERVICES

The purpose of the Student Personnel Office is to test, counsel, place, maintain records for, assist in housing, arrange loan funds, and assist the student in securing self-help.

Students are encouraged to consult the personnel office on personal and academic matters. The office will arrange conferences to discuss problems with the student in order to evaluate his case and provide the needed guidance.

The Student Personnel Office is responsible for the following areas:

Testing: Various tests are given as a tool for use in guidance and placement of students.

Counseling: Each student may use this service as desired. He may feel free to come to the personnel office at any time when a personal problem arises which may affect his educational progress.

Placement: The Institute will assist the students and alumni in securing employment. The objective of this service is to guide and assist the student and graduate in obtaining the type of position for which he is best qualified.

Active contacts are maintained throughout North Carolina with industries. Informative booklets, brochures, and industrial directories are available in the library. Group and individual job interviews will be arranged.

Records: Transcripts of the students' courses and grades are maintained and will me sent to agencies or institutions upon written request of the student.

Draft Deferment: Draft deferment forms are mailed to the local Selective Service Board upon request of the student. A student is deferred under the same draft-deferment regulations as are other college students through-out the State and nation.

Student Housing: The Institute does not operate dormitory facilities nor does it assume responsibility for housing and maintenance. It will assist students in securing adequate facilities in Sanford and vicinity, subject to availability of housing and approval of the student concerned. Payment for such facilities is the direct responsibility of the student and must be made direct to the landlord. The Institute cannot accept responsibility for student conduct or activities off the school premises except when in connection with school sponsored and supervised activities.

Vocational Rehabilitation

The Institute works with various vocational rehabilitation agencies in seeking to provide educational opportunities for persons with physical and health limitations.

Veterans

Qualified veterans and children of deceased veterans may be admitted and approved to receive educational benefits, providing they meet requirements established by the Veterans Administration. Central Carolina Technical Institute has been approved by the Veterans Administration. Veterans eligible to attend technical or vocational programs may do so under the Veterans' Readjustment Benefits Act of 1966.

In cases where the minimum number of clock hours per quarter do not meet the requirements established by the Veterans Administration, Public Law 89-358, (25 hours technical, 30 hours vocational) the institution will provide classes for such veterans to meet this requirement by scheduling additional hours in subjects shown in the curriculum.

The Institute is approved for the training of veterans under Public Law 16 of the 78th Congress and under Public Law 550 of the 82nd Congress, and Chapter 34, Title 38, United States Code.

LIBRARY SERVICES

The Institute library operates from 8:30 A.M. to 4:30 P.M., Monday through Friday, and 6:00 P.M. to 9:30 P.M., Monday through Thursday. A full-time librarian is available during library hours to assist users.

Library services are typical of nonfiction libraries in general. The range of material is from periodicals to reference books and covers the technical and trade areas. The scope of subject matter is extensive and should satisfy the needs of every educational level.

The general public, as well as students, is eligible to use the library and borrow books from it. Persons using the library are expected to conform to standard practices on return of books and decorum while in the library. Late-return fines of 5 cents per day are in effect. Lost books must be replaced in kind or purchase price.

HOURS AND PLACES OF OPERATION

The Institute is open Monday through Thursday from 8:00 A.M. to 10:00 P.M. and Friday from 8:00 A.M. to 5:00 P.M., exclusive of holidays. Full-time administrative staffs are available at both the day and evening schools.

Classes are operated at the Institute and in outlying areas. In general, curriculum courses are held at the Institute proper; upgrading and general adult courses are held both at the Institute and at other locations.

AGRICULTURAL BUSINESS

Purpose of Curriculum

Rapid technological changes in farming and related agricultural businesses have given rise to the need for more technically trained people. A variety of agricultural businesses and industries employ persons to assist in marketing, processing, and distributing of farm products and providing services to the farmer. Many responsible positions in agricultural businesses and industries require technical training not available in high schools or in four-year colleges.

Agricultural production is undergoing tremendous changes. The trends are to larger, highly mechanized and specialized farms with huge capital investments. This means that there will be an increasing demand for capable farm managers to coordinate the purchasing, production, and marketing of these larger agricultural production operations.

Farm managers of the future must possess greater technical competence to remain in the highly competitive production phase of agriculture. They must be able to cope with present production problems and adapt to rapid technological changes.

The Agricultural Business curriculum is designed to help students acquire knowledge, understandings, and abilities in the broad field of agricultural business, including agricultural production. It combines knowledge of agriculture with business training to prepare the graduate for many of the varied employment opportunities in agriculture.

Job Description

As agricultural business and industry firms expand in size and number they are experiencing rapid changes in technologies of production, sales, and management, in an increasingly competitive environment. Future employees of such firms must be prepared to understand these changes and adapt themselves accordingly. Successful completion of this curriculum should enable a person to assume responsibilities in an agricultural firm and should enable him to advance within such a business.

Upon graduation from this curriculum, an individual should qualify for various jobs in agricultural business and industry such as salesman or store manager in farm supply stores; agricultural field serviceman; salesman, demonstrator, or plant manager of feed and food companies; farm products inspector, salesman, or office managers of farm products marketing firms.

The trend towards larger farming operations with increased non-farm control of production means there will be greater employment opportunities for well-trained individuals who can efficiently and profitably supervise the production and marketing of agricultural products.

AGRICULTURAL BUSINESS

Course Title	Hrs. Pr. Wk. Cl.	Lab.	Qr. Hrs. Cr.
First Quarter			
T-ENG 101 Grammar	3	0	3
T-BIO 101A Biology	3	6	6
T-MAT 110 Business Mathematics	3	4	5
T-BUS 101 Introduction to Business	3	4	5
	12	14	19
Second Quarter			
T-ENG 102 Composition	3	0	3
T-BUS 120A Accounting	3	6	6
T-AGR 185 Soil Science and Fertilizers	3	4	5
T-CHM 101 Chemistry I	3	6	6
	12	16	20
Third Quarter			
T-ENG 206 Business Communications	3	0	3
T-AGR 201 Agricultural Chemicals	3	6	6
T-AGR 125 Animal Science	5	2	6
T-AGR 170 Plant Science	2	4	4
	13	12	19
Fourth Quarter			
T-ENG 204 Oral Communications	3	0	3
T-AGR 228 Livestock Diseases and Parasites	3	4	5
T-BUS 232 Salesmanship I	2	2	3
T-AGR 271 Field Crops	3	6	6
T-BUS 243 Advertising	3	2	4
	14	14	21

Course Title	Hrs. Pr. Wk. Cl.	Hrs. Pr. Wk. Lab.	Qr. Hrs. Cr.
Fifth Quarter			
T-AGR 150 General Horticulture	2	4	4
T-BUS 233 Salesmanship II	3	4	5
T-AGR 127 Animal Nutrition	3	4	5
T-BUS 115 Business Law	3	0	3
T-PSY 206 Applied Psychology	3	0	3
	14	12	20
Sixth Quarter			
T-POL 201 United States Government	3	0	3
T-AGR 218 Agricultural Mechanization	3	4	5
T-AGR 104 Introduction to Agricultural Economics	3	2	4
T-BUS 239 Marketing	5	2	6
	14	8	18

AGRICULTURAL RESEARCH TECHNOLOGY

Purpose of Curriculum

The curriculum in Agricultural Research Technology will prepare students for entry into the extremely important and rapidly growing field of agricultural research—involving the development, testing, production, and use of pesticides, chemicals, biologicals, plant strains, and animals. Governmental and industrial agencies conduct basic and developmental research on a wide variety of agricultural materials, products, and methods. The scope of activities within the field is practically unlimited.

The Agricultural Research Technology curriculum will give the student a functional understanding of:

1. Effective communication and human relations situations peculiar to the area of agricultural research;
2. Basic biological sciences relating to agricultural research;
3. Basic and applied chemistry;
4. Controlled production of agronomic and horticultural crops and animals; and
5. Research techniques as applied to agriculture and biology.

A broad base of general education and technical courses is combined with courses in plant science, animal science, soil science, horticulture, plant and animal diseases, agricultural chemicals, entomology, and forestry and their application to agricultural research.

Career Opportunities

Agricultural research will be a dominant factor in the continued development of the agricultural industry in North Carolina. The trend towards larger farming operations, greater automation, and the development of new products, materials, methods, and equipment will make skilled *technicians* a necessity for successful agricultural development.

Upon graduation from this curriculum, an individual should qualify for positions with state and federal experiment stations and farms; research centers of pharmaceutical, fertilizer, and chemical companies; large farms; and sales and service organizations. The multiplicity of job opportunities places this program in a unique position for providing positions with a future.

AGRICULTURAL RESEARCH TECHNOLOGY

	Hrs. Pr. Wk.		Qr. Hrs.
Course Title	Cl.	Lab.	Cr.
First Quarter			
T-ENG 101 Grammar	3	0	3
T-MAT 100A Fundamentals of Technical Mathematics	5	0	5
T-BIO 101A Biology	3	6	6
T-AGR 279 Farm Forestry	3	4	5
	14	10	19
Second Quarter			
T-ENG 102 Composition	3	0	3
T-BUS 120A Accounting	3	6	6
T-AGR 185 Soil Science and Fertilizers	3	4	5
T-CHM 101 Chemistry I	3	6	6
	12	16	20
Third Quarter			
T-ENG 103 Report Writing	3	0	3
T-AGR 125 Animal Science	5	2	6
T-AGR 201 Agricultural Chemicals	3	6	6
T-AGR 170 Plant Science	2	4	4
	13	12	19
Fourth Quarter			
T-ENG 204 Oral Communication	3	0	3
T-AGR 228 Livestock Disease and Parasites	3	4	5
T-AGR 271 Field Crops	3	6	6
T-AGR 298 Special Problems	0	6	3
	9	16	17
Fifth Quarter			
T-AGR 145 Entomology	2	4	4
T-AGR Plant Pathology	2	4	4
T-AGR 127 Animal Nutrition	3	4	5
T-AGR 150 General Horticulture	2	4	4
T-PSY 206 Applied Psychology	3	0	3
	12	16	20

Course Title	Hrs. Pr. Wk.		Qr. Hrs. Cr.
	Cl.	Lab.	
Sixth Quarter			
T-POL 201 United States Government	3	0	3
T-AGR 218 Agricultural Mechanization	3	4	5
T-AGR 104 Introduction to Agricultural Economics	3	2	4
T-MAT 214 Statistics	3	4	5
T-AGR 299 Research Problems	0	6	3
	12	16	20

AUTOMOTIVE MECHANICS

Purpose of Curriculum

This curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair, or adjust automotive vehicles. Manual skills are developed in practical shop work. Thorough understanding of the operating principles involved in the modern automobile comes in class assignments, discussion, and shop practice.

Complexity in automotive vehicles increases each year because of scientific discovery and new engineering. These changes are reflected not only in passenger vehicles, but also in trucks, buses, and a variety of gasoline-powered equipment. This curriculum provides a basis for the student to compare and adapt to new techniques for servicing and repair as vehicles are changed year by year.

Job Description

Automobile mechanics maintain and repair mechanical, electrical, and body parts of passenger cars. Mechanics inspect and test to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition. They use shop manuals and other technical publications.

Automotive mechanics is smaller shops usually are general mechanics qualified to perform a variety of repair jobs. A large number of automobile mechanics specialize in particular types of repair work. For example, some may specialize in repairing only power steering and power brakes, or automatic transmissions. Usually such specialists have an all-round knowledge of automotive repair and may occasionally be called upon to do other types of work.

AUTOMOTIVE MECHANICS

Course Title		Hrs. Pr. Wk. Cl.	Shop	Qr. Hrs. Cr.
First Quarter				
AUT 1101	Automotive Shop Practices	3	12	7
MAT 1101	Fundamentals of Mathematics	3	0	5
ENG 1101	Reading Improvement	3	0	3
PHY 1101	Applied Science	3	2	4
		14	14	19
Second Quarter				
AUT 1102	Engine Electrical and Fuel Systems	3	12	7
ENG 1102	Communicative Skills	3	0	3
PHY 1102	Applied Science	3	2	4
AUT 1116	Automotive Schematics and Diagrams	1	3	2
		10	17	16
Third Quarter				
AUT 1103	Steering and Suspension Systems	2	9	5
AUT 1104	Front End Alignment and Wheel Balancing	1	3	2
DFT 1101	Drafting	0	6	3
MEC 1112	Machine Shop	2	4	3
		5	22	13
Fourth Quarter				
AUT 1105	Internal Combustion Engines	1	3	2
AUT 1106	Automotive Tune-Up	1	3	2
AUT 1115	Small Engine Repair	2	4	3
WLD 1101A	Welding	2	4	3
		7	20	13
Fifth Quarter				
AUT 1107	Automotive Power Trains	3	9	6
AUT 1108	Automatic Transmissions	2	6	4
AUT 1110	Electronic Charging and Ignition Systems	1	3	2
AUT 1112	Power Accessories	1	3	2
		7	21	14
Sixth Quarter				
AUT 1109	Troubleshooting Automotive Systems	3	12	7
AUT 1113	Automotive Air-Conditioning	1	3	2
AUT 1114	Special Problems	0	6	2
BUS 1103	Small Business Operation	3	0	3
		7	21	14

BUSINESS ADMINISTRATION

Purpose of Curriculum

In North Carolina the opportunities in business are increasing. With the increasing population and industrial development in this State, business has become more competitive and automated. Better opportunities in business will be filled by students with specialized education beyond the high school level. The Business Administration Curriculum is designed to prepare the student for employment in one of many occupations common to business. Training is aimed at preparing the student in many phases of administrative work that might be encountered in the average business.

The specific objectives of the Business Administration Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.
2. Understanding our economy through study and analysis of the role of production and marketing.
3. Knowledge in specific elements of accounting, finance, and business law.
4. Understanding and skill in effective communication for business.
5. Knowledge of human relations as they apply to successful business operations in a rapidly expanding economy.

Job Description

The graduate of the Business Administration Curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These encompassments might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculations, adjusting complaints, operating various office machines, and assisting managers in supervising. Positions are available in businesses such as advertising; banking; credit; finance; retailing; wholesaling; hotel, tourist, and travel industry; insurance; transportation; and communications.

BUSINESS ADMINISTRATION

	Hrs. Pr. Wk.		Qr. Hrs.
Course Title	Cl.	Lab.	Cr.
First Quarter			
T-ENG 101 Grammar	3	0	3
T-MAT 110 Business Mathematics	3	4	5
T-BUS 101 Introduction to Business	3	4	5
T-BUS 102 Typing	2	3	3
T-BUS 110 Office Machines	2	2	3
	13	13	19
Second Quarter			
T-ENG 102 Composition	3	0	3
T-BUS 120 Accounting I	5	6	8
T-BUS 115 Business Law	3	0	3
T-ECO 102 Economics	2	2	3
T-BUS 123 Business Finance	2	2	3
	15	10	20
Third Quarter			
T-ENG 103 Report Writing	3	0	3
T-BUS 121 Accounting II	5	6	8
T-BUS 116 Business Law	3	0	3
T-BUS 123 Business Finance	2	2	3
T-ECO 104 Economics	2	2	3
	15	10	20
Fourth Quarter			
T-ENG 204 Oral Communications	3	0	3
T-EDP 104 Introduction to Data Processing	2	2	3
T-BUS 232 Salesmanship I	2	2	3
T-BUS 243 Advertising	3	2	4
T-BUS 222 Accounting III	3	6	6
	13	12	19
Fifth Quarter			
T-ENG 206 Business Communications	3	0	3
T-PSY 206 Applied Psychology	3	0	3
T-BUS 233 Salesmanship II	3	4	5
T-BUS 235 Business Management	3	0	3
T-BUS 223 Accounting IV	3	6	6
	15	10	20
Sixth Quarter			
T-POL 201 United States Government	3	0	3
T-BUS 229 Taxes	3	2	4
T-BUS 272 Principles of Supervision	3	0	3
T-BUS 271 Office Management	3	4	5
T-BUS 239 Marketing	5	2	6
	17	8	21

DRAFTING & DESIGN — MECHANICAL

Purpose of Curriculum

This curriculum guide was prepared for the purpose of outlining a training program for students of mechanical drafting and design technology. There are certain identifiable duties which are common to all technicians of this general classification and which comprise the basic areas of technical knowledge they need. This curriculum has been designed for training persons in the accepted performance of these basic duties that will be assigned, and to enable the individual student to become proficient in a short time after he becomes employed in the industry.

Courses in general education have been included to give a student the assurance and understanding that comes with education upon a broad base. The technician is associated with many levels of thought and expression—administrative personnel, scientists, engineers, skilled workmen—and must be able to communicate effectively with all levels. Courses containing essential information from related subject areas, such as mathematics, physics, and mechanics have been included in order to provide the student a better academic base for his training. Emphasis is placed upon ability to think and plan, as well as drafting procedures and techniques.

Job Description

Mechanical drafting and design technicians are concerned with the preparation of drawings for design proposals, for experimental models and items for production use.

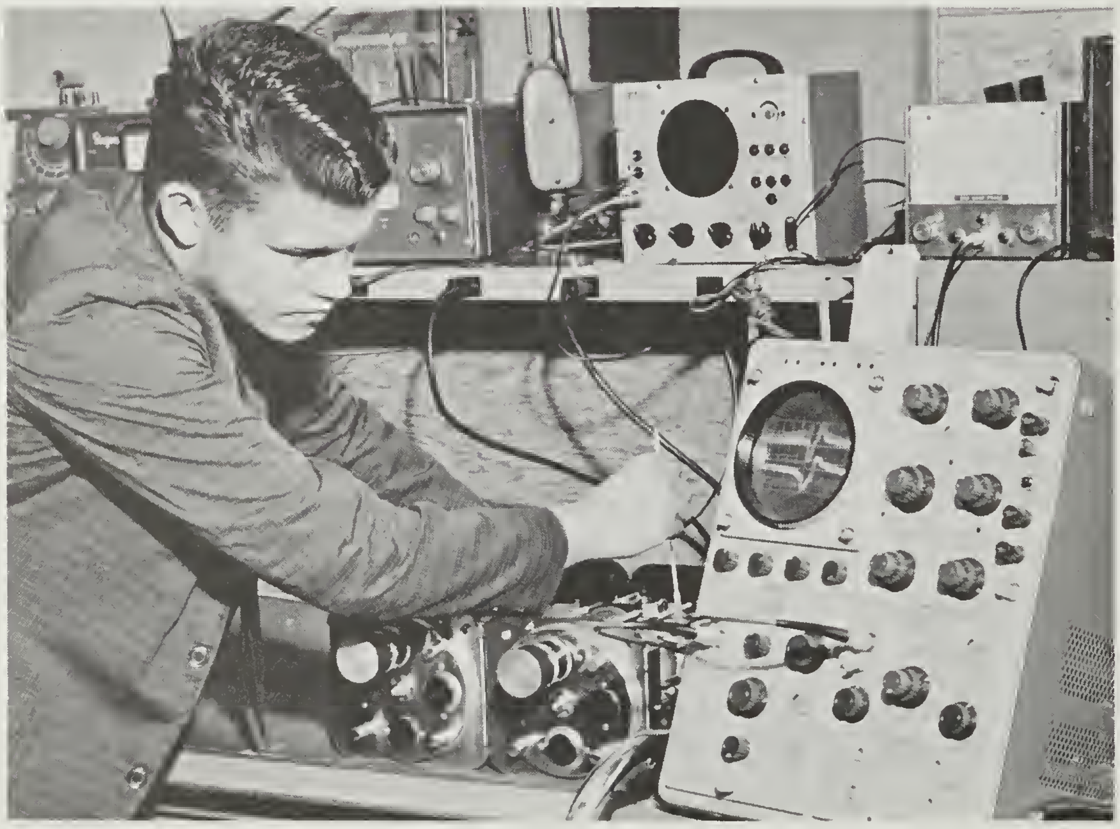
These technicians perform many aspects of drafting in a specialized field, such as the developing of the drawing of a section, subassembly or major component. Investigating design factors and availability of material and equipment, production methods and facilities are frequent assignments. They assist in the design of units and controls from specifications by utilizing drawings of existing units and reports on functional performance. They may draw components in industrial fields based on engineers' original design concepts or specific ideas. Also, they may be assigned as coordinators for the execution of related work of other design, production, tooling, material and planning groups. Technicians with experience in this classification may often supervise the preparation of working drawings.

These technicians are employed in many types of manufacturing, fabrication, research development and services industries. Substantial numbers also are employed in communications, transportation, public utilities, consulting engineering firms, and federal, state, and local governments.

DRAFTING & DESIGN — MECHANICAL

Course Title		Hrs. Pr. Wk. Cl.	Lab.	Qr. Hrs. Cr.
First Quarter				
T-ENG 101	Grammar	3	0	3
T-MAT 100	Fundamentals of Technical Mathematics	5	0	5
T-PHY 206	Applied Psychology	3	0	3
T-DFT 101	Technical Drafting	2	6	4
T-MEC 101	Machine Processes	2	6	4
		15	12	19
Second Quarter				
T-ENG 102	Composition	3	0	3
T-MAT 101	Technical Mathematics	5	0	5
T-PHY 101	Physics: Properties of Matter	3	2	4
T-DFT 102	Technical Drafting	2	6	4
T-MEC 102	Machine Processes	2	6	4
		15	14	20
Third Quarter				
T-ENG 103	Report Writing	3	0	3
T-MAT 102	Technical Mathematics	5	0	5
T-PHY 102	Physics	3	2	4
T-PHY 106	Applied Mechanics	5	0	5
T-DFT 103	Technical Drafting	2	6	4
		18	8	21
Fourth Quarter				
T-ENG 204	Oral Communication	3	0	3
T-MAT 103	Technical Mathematics	5	0	5
T-PHY 103	Physics: Electricity	3	2	4
T-DFT 201	Technical Drafting	2	6	4
T-MEC 205	Strength of Materials	3	2	4
		16	10	20

Course Title		Hrs. Pr. Wk. Cl.	Shop	Qr. Hrs. Cr.
Fifth Quarter				
T-DFT 205	Design Drafting	2	6	4
T-DFT 211	Mechanisms	3	2	4
T-MEC 210	Physical Metallurgy	3	3	4
T-MEC 214	Tool Engineering I	2	4	4
		10	15	16
Sixth Quarter				
T-ECO 102	Economics	3	0	3
T-DFT 206	Design Drafting II	2	6	4
T-MEC 211	Physical Metallurgy	3	3	4
T-DFT 204	Descriptive Geometry	2	4	4
T-MEC 215	Tool Engineering II	2	4	4
		12	17	19



ELECTRONICS

INTRODUCTION

Purpose of Curriculum

The field of electronics has developed at a rapid pace since the turn of the century. For many years the major concern of electronics was in the area of communications. Developments during World War II and in the period since have revolutionized production techniques. New industries have been established to supplement the need and demand for electronics equipment.

Many opportunities exist for men and women with a technical education in electronics. This curriculum provides a basic background in electronic related theory with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may take their place as an assistant to an engineer, or as a liaison between the engineer and the skilled craftsman.

Job Description

The electronics technician may start in one or more of the following areas: research, design, development, production, maintenance or sales. He may be an assistant to an engineer, an engineering aide, laboratory technician, supervisor or equipment specialist. His training is similar to that of an engineer, but in less depth and more practical in application. He can function as a liaison between an engineer and the skilled craftsman.

ELECTRONICS TECHNOLOGY

	Hrs. Pr. Wk.		Qr. Hrs.
Course Title	Cl.	Lab.	Cr.
First Quarter			
T-ENG 101 Grammar	3	0	3
T-MAT 100 Fundamental of Technical Mathematics	5	0	5
T-PSY 206 Applied Psychology	3	0	3
T-DFT 101A Drafting	0	6	2
T-ELC 101 Fundamentals of Electricity	4	4	6
	15	10	19
Second Quarter			
T-ENG 102 Composition	3	0	3
T-MAT 101 Technical Mathematics	5	0	5
T-PHY 101 Physics	3	2	4
T-DFT 102A Drafting	0	6	2
T-ELC 102 Fundamentals of Electricity	5	4	7
	16	12	21
Third Quarter			
T-ENG 103 Report Writing	3	0	3
T-MAT 102 Technical Mathematics	5	0	5
T-PHY 102 Physics	3	2	4
T-ELN 101 Electronic Instruments and Measurements	1	4	3
T-ELN 105 Control Devices	5	6	8
	17	12	23
Fourth Quarter			
T-ENG 204 Oral Communication	3	0	3
T-MAT 103 Technical Mathematics	5	0	5
T-PHY 104 Physics	3	2	4
T-ELN 205 Applications of Vacuum Tubes and Transistors	5	6	8
	16	8	20
Fifth Quarter			
T-MAT 201 Technical Mathematics	5	0	5
T-ELN 210 Semiconductor Circuit Analysis	5	3	6
T-ELN 214 Wake Shaping and Pulse Circuits	2	3	3
T-ELN 225 Transmission and Propagation	3	0	3
T-ELN 231 Electronic Communication	4	2	5
	19	8	22
Sixth Quarter			
T-ECO 102 Economics	3	0	3
T-ELN 215 Wave Shaping and Pulse Circuits	2	3	3
T-ELN 220 Electronic Systems	5	4	7
T-ELN 227 UHF and Microwave	5	4	7
	15	11	20

ELECTRICAL LINEMAN

INTRODUCTION

Purpose of Curriculum

Electrical power requirements have multiplied during recent years because of increased industrialization and the construction of homes and public buildings that are maintained by electrical light, heat and power. With this increase in electrical power consumption, additional facilities are required along with additional skilled manpower to install, service and maintain modern equipment.

In order to prepare qualified young men to enter the electrical trade as skilled linemen, the following pre-employment program has been prepared.

The objectives of this curriculum guide is to provide technical information and skills necessary to perform the jobs and operations assigned to the lineman; to teach the proper safety procedures and to establish acceptable work habits; to develop the correct habits and techniques in the use of tools and equipment of the trade; to develop initiative, judgment, and an attitude for accepting individual responsibility in working with people.

Job Description

The lineman erects wood poles and prefabricated light-duty metal towers, cable, and related equipment to construct transmission and distribution powerlines. He may assist in attaching crossarms, insulators, lightning arresters, switches, wire conductors, and auxiliary equipment to poles preparatory to erection. He climbs erected poles or towers and installs equipment such as transformers, lines or cables and other equipment. He splices, solders and insulates conductors and related wiring to join sections of powerline and to connect electrical accessories.

ELECTRICAL LINEMAN
SUGGESTED CURRICULUM BY QUARTERS

Course Title		Hrs. Pr. Wk. Cl.	Hrs. Pr. Wk. Lab.	Qr. Hrs. Cr.
First Quarter				
ELC 1131	Electrical Lineman: Theory & Application	3	15	8
PHY 1101	Applied Science	3	2	4
MAT 1101	Fundamentals of Math	5	0	5
ELC 1141	First Aid	2	0	2
		13	17	19
Second Quarter				
ELC 1132	Electrical Lineman: Theory & Application	3	15	8
MAT 1122	Electrical Mathematics	3	0	3
DFT 1120	Blueprint Reading: Maps & Sketches	2	0	2
PHY 1102	Applied Science	3	2	4
ELC 1143	Electrical Safety Codes	2	0	2
		13	17	19
Third Quarter				
ELC 1133	Electrical Lineman: Theory & Application	3	18	9
ELC 1134	Electrical Apparatus	2	3	3
ELC 1144	Electrical Safety Codes	2	0	2
ELC 1142	First Aid—Advanced	2	0	2
		9	21	16

INDUSTRIAL MAINTENANCE MECHANICS ELECTROMECHANICAL

Purpose of Curriculum

This curriculum will provide a training program in the basic knowledge, fundamentals, and industry practices in the maintenance and repair of industrial machinery and electromechanical equipment. With the industrial growth of North Carolina and the variety of machinery and equipment used throughout the average manufacturing plant, qualified maintenance mechanics who have a basic knowledge of electrical-mechanical systems and their application are in constant demand. The 1966-70 manpower survey recently completed by the North Carolina Employment Security Commission indicates 1,189 additional maintenance mechanics needed by spring of 1970.

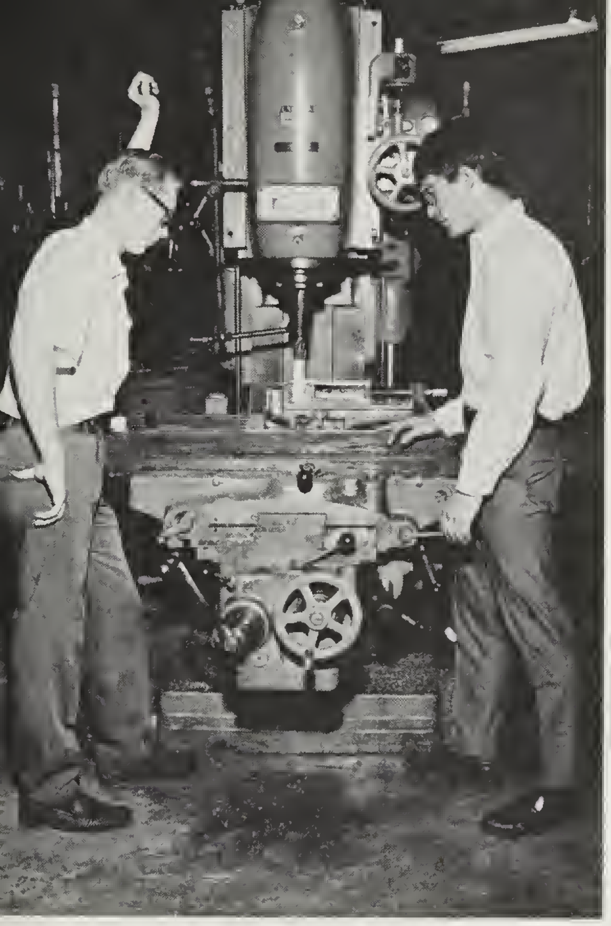
Job Description

The electromechanical mechanic repairs and maintains, in accordance with drawings, diagrams, sketches, operation manuals and manufacturers specifications, machinery and mechanical equipment such as pumps, compressors, boilers, motors, electrical controls, pneumatic and hydraulic devices, and production machines found in industrial plants. He uses hand tools, power tools, machine tools, welding equipment, and precision-measuring and testing instruments.

He must observe mechanical and electrical devices in operation and listen to their sounds to locate causes of trouble. Much of a repairman's time is spent in preventative maintenance. He also may keep maintenance records of the equipment he services.

INDUSTRIAL MAINTENANCE MECHANICS — ELECTROMECHANICAL

Course Title	Hrs. Pr. Wk.		Qr. Hrs.
	Cl.	Shop	Cr.
First Quarter			
MEC 1101 Machine Tool Theory and Practice	3	9	6
MAT 1101 Fundamentals of Mathematics	5	0	5
PHY 1101 Applied Science	3	2	4
DFT 1101 Drafting	0	6	3
	11	17	18
Second Quarter			
EMS 1101 Industrial Maintenance Shop Practice	3	9	6
MAT 1115 Electrical Mathematics	5	0	5
PHY 1102 Applied Science	3	2	4
DFT 1102 Drafting	0	6	3
	11	17	18
Third Quarter			
ELC 1112A Direct and Alternating Current	3	12	7
MEC 1117 Treatment of Metals	3	3	4
DFT 1103 Drafting	0	6	3
	6	21	14
Fourth Quarter			
EMS 1102 Electromechanical Systems I	3	12	7
WLD 1126 Welding I	3	9	6
ENG 1101 Reading Improvement	3	0	3
	9	21	16
Fifth Quarter			
EMS 1103 Electromechanical Systems II	3	12	7
WLD 1127 Welding II	3	9	6
ENG 1102 Communicative Skills	3	0	3
	9	21	16
Sixth Quarter			
AHR 1104 Boilers and Heating Systems	2	6	4
AHR 1121A Commercial Refrigeration Systems	2	6	4
EMS 1105 Pneumatic and Hydraulic Systems	2	6	4
WLD 1128 Pipe Welding or AUT 1115 Small Engines	2	4	3
	8	22	15



MACHINIST

Purpose of Curriculum

This curriculum was prepared to meet a definite need for training of machinists. Surveys recently completed in North Carolina show that many of the existing industries lack time and facilities for training enough machinists to meet present and planned needs. Expanding industries already located in our state and new industries under development invariably express the need for skilled craftsmen who have the background knowledge and potential to advance.

This guide is designed to give learners the opportunity to acquire basic skills and the related technical information necessary to gain employment and build a profitable career in the machine shop industry in the state. It is comprised of the joint views of committees responsible for its development.

Job Description

The machinist is a skilled metal worker who shapes metal parts by using machine tools and hand tools. His training and experience enable him to plan and carry through all the operations needed in turning out a machined product and to switch readily from one kind of product to another. A machinist is able to select the proper tools and material required for each job and to plan the cutting and finishing operations in their proper order so that he can complete the finished work according to blueprint or written specifications. He makes standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining. He often uses precision measuring instruments such as micrometers and gages to measure the accuracy of his work to thousandths of an inch.

This skilled worker must be able to set up and operate most types of machine tools. The machinist also must know the composition of metals so that he can heat and quench cutting tools and parts to improve machinability. His wide knowledge unables him to turn a block of metal into an intricate, precise part.

MACHINIST

	Hrs. Pr. Wk.		Qr. Hrs.
Course Title	Cl.	Shop	Cr.
First Quarter			
MEC 1101 Machine Tool Theory and Practice	3	9	6
MAT 1101 Fundamentals of Mathematics	5	0	5
PHY 1101 Applied Science	3	2	4
DFT 1101 Drafting	0	6	3
	11	17	18
Second Quarter			
MEC 1102 Machine Tool Theory and Practice	3	9	6
MAT 1103 Geometry	5	0	5
PHY 1102 Applied Science	3	2	4
DFT 1102 Drafting	0	6	3
	11	17	18
Third Quarter			
MEC 1103 Machine Tool Theory and Practice	3	9	6
MAT 1123A Machinist Mathematics	5	0	5
MEC 1115 Treatment of Ferrous Metals	3	3	4
DFT 1103 Drafting	0	6	3
	11	18	18
Fourth Quarter			
MEC 1104 Machine Tool Theory and Practice: Special Tools	3	9	6
MEC 1105 Tool Making: Introduction	2	6	4
MEC 1116 Treatment of Non-Ferrous Metals	3	3	4
ENG 1101 Reading Improvement	3	0	3
	11	18	17

POLICE SCIENCE

Purpose of Curriculum

Law enforcement techniques have evolved from rather simple jobs, requiring simple qualifications, to more complex activities requiring a large capacity for highly specialized knowledge.

Traditional policies and entrance requirements, coupled with education and training standards have led to a shortage of trained law enforcement technicians and administrators.

Today, as police agencies move toward a professional status, educational institutions are becoming the training centers for tomorrow's policemen. The North Carolina Department of Community Colleges' Law Enforcement Training Program is dedicated to the purpose of developing proficiency in leadership in these people. Its development is based on present and future educational and training needs rather than those of the past.

The program is designed to provide occupational training for the individual who has a definite interest in and adaptability to a law enforcement career. It offers practical, technical and general instruction to meet the requirements of various law enforcement agencies and provides the student with the skills, knowledges, and attitudes necessary for employment at the operational level and development for management roles.

There is an increasing demand for properly trained law enforcement officers in industry, municipal, county, state and federal agencies; and there is every reason to believe that the highly trained law enforcement officer will find challenging opportunities with public and private law enforcement services.

Job Description

Law enforcement is that important division of government which is assigned the power and responsibility to maintain order and enforce law. Its basic functions may be classified as prevention of crime, suppression of criminal activity, apprehension of offenders, preservation of the peace, regulation of noncriminal conduct, and the protection of life and property.

To the original and primary police functions of preserving the peace and maintaining law and order, the ever widening scope of government activity has added a host of other duties to the various law enforcement agencies, ranging from the regulation of traffic and the suppression of vice to the enforcement of minor laws and ordinances that regulate the minutiae of business and private life in a modern society.

POLICE SCIENCE

	Hrs. Pr. Wk.		Qr. Hrs.
Course Title	Cl.	Lab.	Cr.
First Quarter			
T-ENG 101 Grammar	3	0	3
T-MAT 100 Technical Math	5	0	5
T-PSC 101 Introduction to Law Enforcement	5	0	5
T-PSY 102 General Psychology	5	0	5
	18	0	18
Second Quarter			
T-ENG 102 Composition	3	0	3
T-SOC 102 Principles of Sociology	5	0	5
T-POL 102 Government—National	5	0	5
T-PSC 220 Police Organization & Administration I	5	0	5
	18	0	18
Third Quarter			
T-ENG 103 Report Writing	3	0	3
T-POL 103 Government—State and Local	5	0	5
T-PSC 110 Police Role in Crime & Delinquency	5	0	5
——— Elective	5	0	5
	18	0	18
Fourth Quarter			
T-ENG 204 Oral Communications	3	0	3
T-PSC 201 Traffic Planning and Management	4	2	5
T-CHM 101 Chemistry	4	2	5
T-PSC 115 Criminal Law	5	0	5
	16	4	18

Fifth Quarter

P-PSC 205	Criminal Evidence	5	0	5
T-PSC 210	Criminal Investigation	5	0	5
———	Elective	5	0	5
———	Elective	3	0	3
		18	0	18

Sixth Quarter

T-PSC 211	Introduction to Criminalistics	4	3	5
T-PSC 225	Criminal Procedure	5	0	5
T-PSY 103	Adolescent Psychology	5	0	5
———	Elective	3	0	3
		17	3	18

PRACTICAL NURSE EDUCATION

GRADUATES ELIGIBLE FOR
STATE BOARD EXAMINATION
AND LICENSE
A ONE-YEAR POST HIGH SCHOOL
VOCATIONAL CURRICULUM

Course Description

The Practical Nurse Education course is planned to meet the needs of hospitals, nursing homes and other medical agencies in North Carolina and other states. The course outline has been studied and approved by representatives of a number of the major medical agencies.

Practical nurse training includes classroom study of basic nursing skills and related subjects, such as body structure and functions, conditions of illness, nutrition, and types of medicine and medications, as well as supervised clinical practice in applying this training to actual situations.

General Qualifications

Among the personal qualities essential for practical nurses are the desire to help sick people and an aptitude for the work. Also important are tact, patience, understanding, emotional stability, dependability and good physical health.

The successful practical nurse in addition to the personal qualities stated, must be capable of learning the basic nursing skills and related subjects. This requires an understanding or aptitude for communication, biological sciences and psychology. Those who feel they are able to meet these requirements and think they have the necessary personal qualities to do well in this field should give special consideration to training for this type of employment.

Employment

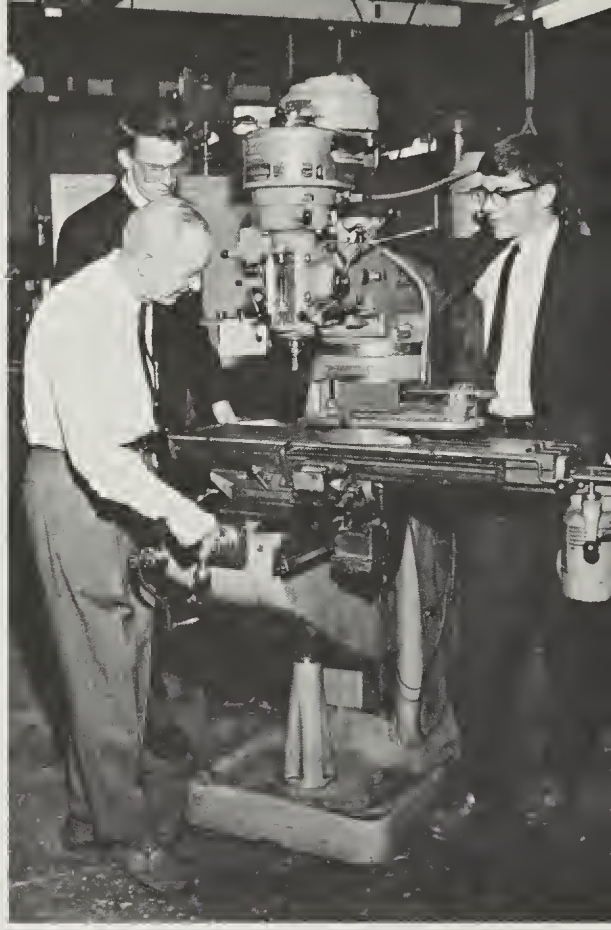
Licensed practical nurses assist in the care and treatment of the physically and mentally ill, under the direction of physicians or professional nurses. As members of a nursing team, they perform many of the less complex tasks, thus freeing professional nurses for more skilled and specialized duties. They may also assist physicians or professional nurses with complicated diagnostic procedures or treatments.

Practical nurses usually give prescribed treatments and medications, take patients' temperature, pulse, and blood pressure readings, and help with bathing and other personal hygiene tasks. They may also provide nursing care for newborn babies and their mothers, the handicapped, the chronically ill, or the convalescent. In doctors' offices, practical nurses assist physicians or professional nurses in the examination of patients, give simple medications or treatments as directed, make routine laboratory tests, and perform some clerical tasks.

Licensed practical nurses are expected to have excellent employment opportunities. The supply of licensed workers has not kept pace with the demand generated by the establishment of new positions vacated by practical nurses who retire, die or leave the nursing field for other reasons. Many part-time positions will continue to be available, thus enabling women who have families or other responsibilities to continue to work as practical nurses.

SUGGESTED CURRICULUM BY QUARTERS

Course Title				Course Title			
First Quarter	C	L	CH	**Third Quarter**	C	L	CH
Practical Nursing I	18	5	20	Practical Nursing III	10	26	19
Second Quarter	C	L	CH	**Fourth Quarter**	C	L	CH
Practical Nursing II	12	23	20	Practical Nursing IV	10	26	19



TOOL MAKER

Purpose of Curriculum

This curriculum was prepared to meet a need for training of tool makers. Surveys recently completed in North Carolina show that many of the existing industries lack time and facilities for training enough tool makers to meet present and planned needs. Expanding industries already located in our state and new industries under development invariably express the need for skilled craftsmen who have the background knowledge and potential to advance.

This guide is designed to give learners the opportunity to acquire basic skills and the related technical information necessary to gain employment and build a profitable career in the tool making trade in the state.

Job Description

Tool makers are highly skilled, creative workers, whose products—tools and special guiding and holding devices—are the basis of mass production in metalworking industries. Tool makers specialize in producing jigs and fixtures (devices required to hold metal while it is being shaved, stamped, or drilled). They also make gages and other measuring devices that are used in manufacturing precision metal parts.

In comparison with most other machining workers, tool makers have a broader knowledge of machinery operations, shop practices, mathematics, and blueprint reading, and can work to closer tolerances and do more precise handwork. They use almost every type of machine tool and precision-measuring instrument. They work with all metals and alloys commonly used in manufacturing.

Since this work is highly skilled, persons planning to enter the trade should have a good working knowledge of mathematics and physics, as well as considerable mechanical ability, finger dexterity, and a liking for painstaking work. Because tool makers do precision work, the areas in plants and shops where they work are clean and well-lighted.

TOOL MAKER

Course Title		Hrs. Pr. Wk. Cl.	Shop	Qr. Hrs. Cr.
First Quarter				
MEC 1101	Machine Tool Theory and Practice	3	9	6
MAT 1101	Fundamentals of Mathematics	5	0	5
PHY 1101	Applied Science	3	2	4
DFT 1101	Drafting	0	6	3
		11	17	18
Second Quarter				
MEC 1102	Machine Tool Theory and Practice	3	9	6
MAT 1103	Geometry	5	0	5
PHY 1102	Applied Science	3	2	4
DFT 1102	Drafting	0	6	3
		11	17	18
Third Quarter				
MEC 1103	Machine Tool Theory and Practice	3	9	6
MAT 1123A	Machinist Mathematics	5	0	5
MEC 1115	Treatment of Ferrous Metals	3	3	4
DFT 1103	Drafting	0	6	3
		11	18	18
Fourth Quarter				
MEC 1104	Machine Tool Theory & Practice: Special Tools	3	9	6
MEC 1105	Tool Making: Introduction	2	6	4
MEC 1116	Treatment of Non-Ferrous Metals	3	3	4
ENG 1101	Reading Improvement	3	0	3
		11	18	17
Fifth Quarter				
MEC 1106	Tool Making: Jigs and Fixtures	3	12	7
MEC 1107	Die Making I: Introduction	3	9	6
ENG 1102	Communicative Skills	3	0	3
		9	21	16
Sixth Quarter				
MEC 1108	Tool Making: Gages & Special Tools	3	9	6
MEC 1109	Die Making II	3	9	6
MEC 1110	Heat Treating	2	4	3
		8	22	15

VETERINARY MEDICAL TECHNOLOGY

Purpose of Curriculum

The purpose of the Veterinary Medical Technology curriculum is to provide training for young men and women who desire to become veterinary medical technologists. Ultimately it will provide the sorely needed technical assistance to the veterinarian and assist in the upgrading of the profession. Students graduating in this curriculum will be capable of accepting many job opportunities of a technical nature which exist in the field of veterinary medicine.

For years competently trained personnel have been needed to work in the many different areas of veterinary medicine. In the past veterinarians have attempted to fill these positions with technicians who received their training in the human field or by employing some individual who could receive on the job training.

The objectives of the Veterinary Medical Technology curriculum are to:

1. Develop knowledge in the areas of reception and record keeping, restraint of animals for examination and treatment, operating room techniques, medication, feeding, and maintaining proper sanitation.
2. Develop proficiency in performing certain laboratory tests incident to the diagnosis and proper care of domestic animals.
3. Understand the importance of effective communication and its application to proper public relations.

Job Description

The curriculum is primarily designed to provide training for young men and women as technicians to assist the veterinarian with small and large animal practice. Although emphasis in the curriculum is placed on developing proficiency in assisting the private practicing veterinarian, the instruction will also prepare the student for job opportunities in diagnostic laboratories, research, and other areas dealing with animal care.

The veterinary medical technician assists the veterinarian by performing a broad range of responsible technical duties essential for the proper care of animals. Duties include such activities as reception and record keeping, restraint of animals for examination and treatment, assisting in the performance of surgical procedures, performance of laboratory tests, medication, feeding, and maintaining proper sanitation.

VETERINARY MEDICAL TECHNOLOGY

	Hrs. Pr. Wk.		Qr. Hrs. Cr.
Course Title	Cl.	Lab.	
First Quarter			
T-ENG 101 Grammar	3	0	3
T-BIO 101A Biology	3	6	6
T-MAT 100A Fundamentals of Technical Mathematics	5	0	5
T-AGR 134 Large and Small Animal Breeds	5	0	5
*T-BUS 102 Typing	*2	3	0
	18	9	19
Second Quarter			
T-ENG 102 Composition	3	0	3
T-CHM 101 Chemistry I	3	6	6
T-BUS 120A Accounting	3	6	6
T-AGR 135 Anatomy and Physiology	3	4	5
	12	16	20
Third Quarter			
T-ENG 103 Report Writing	3	0	3
T-CHM 304 Chemistry II	3	4	5
T-BUS 110 Office Machines	2	2	3
T-AGR 140 Laboratory Techniques—I	3	4	5
T-AGR 236 Animal Parasitology	2	4	4
	13	14	20
Fourth Quarter			
T-ENG 204 Oral Communications	3	0	3
T-AGR 139 Small Animal Care	3	4	5
T-AGR 230 Clinical Practices I	2	4	4
T-AGR 240 Laboratory Techniques—II	2	4	4
T-AGR 238 Pharmacology	3	2	4
	13	14	20
Fifth Quarter			
T-AGR 145 Entomology	3	4	5
T-PSY 206 Applied Psychology	3	0	3
T-AGR 301 Small Animal Clinic I	2	4	4
T-AGR 237 Animal Pathology	3	2	4
T-AGR 231 Clinical Practices II	2	4	4
	13	14	20

Sixth Quarter

T-POL 201	United States Government	3	0	3
T-AGR 128	Nutrition	3	2	4
T-AGR 302	Small Animal Clinic II	3	6	6
T-AGR 295	Office Practices	4	0	4
T-AGR 232	Clinical Practices III	2	4	4
		15	12	21

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* Required of students who cannot type. There is no credit toward graduation.

COURSE DESCRIPTION

AGRICULTURAL AND BIOLOGICAL SCIENCE

T-AGR 104 Introduction to Agricultural Economics 3 2 4

An introduction to economics, the functions of the economic system and agriculture's role in the economy. A review of the functions of the manager and an introduction to the principles he uses in making decisions to adjust to changing conditions. Analysis of the main sources of change which affect agricultural firms.

Prerequisite: None

T-AGR 125 Animal Science 5 2 6

An introductory animal science course covering the fundamental principles of livestock production. A study of the animal body and the basic principles of reproduction, genetics, growth, fattening, digestion, along with the selection, feeding, improvement, processing, and marketing of livestock.

Prerequisite: None

T-AGR 127 Animal Nutrition 3 4 5

A course dealing with the principles of nutrition and their application to feeding practices of cattle, horse, sheep, and swine production in North Carolina.

Prerequisite: T-AGR 125

T-AGR 128 Nutrition 3 2 4

This is a course dealing with the principles of nutrition and their application to feeding practices of domestic animals. Emphasis will be placed on the following: nutritional requirements of each class of animals; ration formulation; special problems involved in feeding convalescent animals. Field trips will be made to different farms to observe feeding operations and to feed mills to observe operations incident to mixing a ration.

Prerequisites: T-BIO 101A, T-CHM 101

T-AGR 134 Large and Small Animal Breeds 5 0 5

The study of the common breeds of domestic animals including canines, felines, porcines, ovines, equines, bovines and poultry. Breed characteristics

and fundamental breeding and management procedures will be covered. Field trips will be scheduled when possible.
Prerequisite: None

T-AGR 135 Anatomy and Physiology 3 4 5
A study of the structure and functions of the following systems of the canine: circulatory; nervous; digestive; urinary; skeletal; respiratory; muscular; endocrine; lymphatic and reproductive. Detailed regional dissection will be performed on some of the more important systems and structures. Other domestic animals will be compared to the canine as time permits.
Prerequisite: T-BIO 101A

T-AGR 139 Small Animal Care 3 4 5
The areas of study involved in the care of small animals include proper methods of restraint and handling; techniques in procuring samples (blood, urine, feces, skin scrapings) for laboratory study; proper administration of drugs orally and parenterally; pre- and post- operative care of surgical patients; feeding practices; kennel sanitation; and grooming.
Prerequisite: T-AGR 140

T-AGR 140 Laboratory Techniques I 3 4 5
This course is an introduction of basic laboratory techniques involved in bacteriology, mycology, hematology, and urinalysis. Lectures and demonstrations will support the performance of the various laboratory tests. Proper use and care of laboratory equipment will be emphasized.
Prerequisite: T-BIO 101A

T-AGR 145 Entomology 3 4 5
A study of the arthropods of veterinary medical importance in relation to identification, life cycle, pathology, and control. Each student will be required to collect and identify several different types of arthropods. Field trips will be made when possible.
Prerequisite: None

T-AGR 150 General Horticulture 2 4 4
A course dealing with horticulture principles and the application of plant science fundamentals to horticultural practices.
Prerequisite: None

T-AGR 165 Plant Pathology 2 4 4
A course dealing with nature and symptoms of diseases in plants; the characteristics of plant disease, causal agents, identification, and control of the major plant diseases of the area.
Prerequisite: T-AGR 170

T-AGR 170 Plant Science 2 4 4
An introductory general botany and crop science course covering the fundamental principles of the reproduction, growth, functions, and development of seed bearing plants with application to certain commercially important plants in North Carolina.
Prerequisite: None

T-AGR 185 Soil Science and Fertilizers 3 4 5
A course dealing with basic principles of efficient classification, evaluation, and management of soils; care, cultivation, and fertilization of the soil, and conservation of soil fertility.
Prerequisite: None

T-AGR 201 Agricultural Chemicals 3 6 6
A study of farm chemical pesticides, their ingredients, formulation, and

farm application, with emphasis on the effective and safe use of chemicals in agricultural pest control.
Prerequisite: None

T-AGR 218 Agricultural Mechanization 3 4 5

A study of farm machinery management and labor-saving devices. The economics of selection and operation of farm machinery. Study and evaluation of feed grinders and mixers, storage facilities, materials handling systems and other labor-saving devices.
Prerequisite: None

T-AGR 228 Livestock Diseases and Parasites 3 4 5

A course dealing with the common diseases and parasites of livestock; sanitation practices and procedures with emphasis on the cause, damage, symptoms, prevention, and treatment of parasites and diseases, and management factors related to disease and parasite prevention and control.
Prerequisite:T-AGR 125

T-AGR 230 Clinical Practices I 2 4 4

This course is presented entirely in a veterinary hospital that has both a large and small animal practice. Here the student is placed in a real hospital situation and performs in the following areas: reception of animals (small and large); assists with examination and treatment of all animals; assists in surgery; performs laboratory tests; makes radiographs; administers medications; helps to maintain proper hospital sanitation; and accompanies the veterinarian on large animal farm calls to give needed assistance.
Prerequisite: T-AGR 140

T-AGR 231 Clinical Practices II 2 4 4

A continuation of T-AGR 228. Student is required to work more independently and learn more of the details involving the areas of reception, handling, care, treatment, and laboratory tests incident to large and small animals and the operation of a veterinary hospital.
Prerequisites: T-ARG 140, T-AGR 240, T-AGR 139, and T-AGR 228

T-AGR 232 Clinical Practices III 2 4 4

This course is a continuation of T-AGR 231 and is preparatory toward immediate employment upon completion. All phases of animal care and other areas relevant to the operation of a veterinary hospital will be covered as the student works in the hospital.
Prerequisite: T-AGR 243 and T-AGR 301

T-AGR 236 Animal Parasitology 2 4 4

In this course the common parasites of domestic animals are presented as to classification, life cycle, pathology produced, laboratory diagnosis, and control. Emphasis is placed on laboratory diagnosis and control measures—drugs, sanitation measures and control of intermediate hosts. Each student will collect and identify several different parasite specimens.
Prerequisite: None

T-AGR 237 Animal Pathology 3 2 4

Designed to acquaint the student with the fundamentals of pathology including terminology and study of the common diseases of domestic animals. Necropsies of animals affected with various diseases will be conducted when possible. Terminology and care of the convalescent animal will be emphasized.
Prerequisite: T-AGR 135

T-AGR 238 Pharmacology 3 2 4

This course entails a study of drugs and other substances of veterinary medical importance. Basic terminology, usage, measurement, administration

and storage of drugs is emphasized.
Prerequisite: T-MAT 100A

T-AGR 240 Laboratory Technique II 2 4 4
A continuation of T-AGR 140. In this course the student performs detailed macroscopic, microscopic, and chemical tests on blood, urine, feces and other body secretions and excretions. Culture and identification of bacteria and fungi is performed. Ability to perform the various tests and procedures proficiently is emphasized.
Prerequisite: T-AGR 140

T-AGR 271 Field Crops 3 6 6
A general survey course dealing with the major field crops grown in North Carolina. Special emphasis will be given to tobacco technology, pastures and forage crops, and weeds and their control.
Prerequisite: None

T-AGR 279 Farm Forestry 3 4 5
A course dealing with the fundamentals of forestry and farm forestry problems, including planting, protecting, thinning, and harvesting.
Prerequisite: None

T-AGR 295 Office Practices 4 0 4
This course is designed to teach the student the fundamental principles involved in the following areas: developing good public and client relations, proper telephone etiquette, hospital attire; appointments and records; ethics; first aid for clients and patients; job application. Field trips to several veterinary hospitals will be taken to observe the office practices used in different hospitals.
Prerequisite: None

T-AGR 298 Special Problems 0 6 3
Individual study and reports on a problem or topic of interest to the student under guidance of instructor.
Prerequisite: None

T-AGR 299 Research Problems 0 6 3
The solution and reporting of a problem worked out between the student and his faculty advisor.
Prerequisite: T-AGR 298

T-AGR 301 Small Animal Clinic I 2 4 4
In this course the student applies further with more proficiency the principles and practices learned in T-AGR 140, T-AGR 240 and T-AGR 139. Additionally, the following two areas of study are introduced: X-Ray techniques (safety rules, positioning of patient, making radiographs, development procedures, and proper care of equipment) and operating room procedures including proper care and use of surgical equipment and supplies. Small animal surgery will be conducted by the veterinarian with students as assistants.
Prerequisites: T-AGR 139, T-AGR 140 and T-AGR 240

T-AGR 302 Small Animal Clinic II 3 6 6
A continuation of T-AGR 301. Students will be exposed to a wider variety of clinical situations. The student should perfect techniques incident to animal care and perform with greater independence.
Prerequisite: T-AGR 301

AIR-CONDITIONING AND REFRIGERATION

AHR 1104 Boilers and Heating Systems 2 6 4

A study of oil and gas fired hot water boilers and hot air furnaces. Trouble shooting and preventative maintenance will be stressed. Auxiliaries such as water pumps, fans, blowers, and the theory of combustion of fuels will be studied.

Prerequisite: None

AHR 1121A Commercial Refrigeration Systems 2 6 4

An introduction to the principles of commercial refrigeration, terminology, the use and care of tools and equipment, and the identification and function of the component parts of a system. Other topics will be basic laws of refrigeration; characteristics and comparison of the various refrigerants; the use and construction of valves, fittings, and basic controls. Practical work includes tube bending, flaring and soldering. Standard procedures and safety measures are stressed in the use of special refrigeration service equipment and the handling of refrigerants.

Prerequisite: None

AUTOMOTIVE MECHANICS

AUT 1101 Automotive Shop Practices 3 12 7

An introductory course to the automotive shop with emphasis on the basic shop practices and correct use of basic hand tools and general shop equipment. The student will learn complete lubrication procedures for all parts of the automobile. Standard and disc brake systems will be studied with emphasis placed on complete theory of operation, inspection, and major overhaul. The student will learn to operate tire changing equipment, lubrication equipment, tire balancing equipment, general purpose shop machines, and all basic hand tools.

Prerequisite: None

AUT 1102 Engine Electrical and Fuel Systems 3 12 7

A thorough study of the electrical and fuel systems of the automobile. Included in the study will be cranking systems, charging systems, regulating systems, ignition systems, lighting systems, and other electrical systems. Fuel pumps, fuel gauges, fuel filters, and carburetor will be studied during the full section of the course. All related fuel and electrical test equipment will be studied during this phase of instruction.

Prerequisite: AUT 1101, or an indication that practical experience is sufficient to allow the student to start at this point.

AUT 1103 Steering and Suspension Systems 2 9 5

Practical job instruction in adjusting and repairing of suspension and steering systems. The student will learn how to inspect and overhaul all types of suspension systems. Also the student will learn to completely overhaul all types of standard and power steering assemblies and make all the necessary tests and adjustments.

Prerequisite: AUT 1101 or sufficient experience.

AUT 1104 Front Alignment and Wheel Balancing 1 3 2

A thorough study of the theory and practice of front end alignment and balancing techniques of wheels and tires. The student will get practical experience on school owned front end alignment equipment as well as other makes of equipment. Emphasis will be placed on giving the student a complete knowledge of front end alignment theory so that the techniques can be applied to any front end alignment situation. Related areas of front end alignment work will be studied such as wheel balancing and frame alignment.

Prerequisite: AUT 1101, AUT 1103.

AUT 1105 Internal Combustion Engines 2 9 5

Study of construction and operation of components of internal combustion engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams, camshafts, oil pumps, cooling systems, lubrication systems, exhaust systems, and electrical systems. Emphasis will be placed on testing for problems before the engines are serviced to enable the student to diagnose problems before overhaul.

Prerequisite: AUT 1101 and AUT 1102.

AUT 1106 Automotive Tune-Up 1 3 2

A study of engine performance with emphasis on modern diagnostic methods. Emphasis will be placed on testing for problems in engine electrical, fuel, and mechanical systems. Modern testing equipment will be studied. Practical problems will be introduced to study troubleshooting techniques.

Prerequisite: AUT 1102 and AUT 1105.

AUT 1107 Automotive Power Trains 3 9 6

A study of standard transmissions, clutch systems, drive shafts, and differentials. The student will learn to diagnose problems and to overhaul all types of standard transmissions and differentials. Also the student will service clutch systems and drive shafts.

Prerequisites: AUT 1105; PHY 1102 and 1102.

AUT 1108 Automatic Transmissions 2 6 4

A study of operation, service, and repair of automatic transmission systems. Emphasis will be placed on the theory behind the operation of automatic transmissions. The student will learn to test transmissions on the chassis dynomometer. Practical shop application will be given to the study of torque converters, hydraulic control systems, and complex planetary gearing. All popular makes of transmissions will be studied.

Prerequisites: AUT 1115, 1107; PHY 1101, 1102.

AUT 1109 Troubleshooting Automotive Systems 2 12 7

Emphasis is placed on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. This course is an opportunity to apply some of the knowledge gained in the previous specialized courses. Troubleshooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing, and replacing. All of the previously studied shop equipment will be used.

Prerequisites: Approval by Automotive Department Head.

AUT 1110 Electronic Charging and Ignition Systems 1 3 2

A study of automotive electronic charging and ignition systems. Transistor ignition systems will be studied along with transistor regulators. Included in the course will be complete study of the General Motors "Delcotron," Ford Alternator, and Chrysler Alternator. Installation, troubleshooting, and maintenance will be stressed.

Prerequisites: PHY 1101, 1102; AUT 1102, 1115.

AUT 1112 Power Accessories 1 3 2

A study of service and repair of the common power accessories found in the modern automobile. Major emphasis will be on power brakes and power steering. Other areas of study will include power window lifts, power seats, windshield wipers, heaters, defrosters, and electrical devices such as directional signals, radios, and clocks. Further emphasis will be placed on being able to troubleshoot these items as well as repair.

Prerequisites: PHY 1101, 1102; AUT 1102, 1113, 1115.

AUT 1113 Automotive Air-Conditioning 1 3 2

General introduction to the principles of refrigeration; study of the assembly of the components and connections necessary to install units in vehicles. The student will learn the necessary skills to service all types of air conditioning units commonly found on today's automobiles. Emphasis will be placed on correction of control problems as well as troubleshooting components.

Prerequisites: PHY 1101, 1102; AUT 1112, 1115.

AUT 1114 Special Problems 0 6 2

The course will include special projects or problems assigned by the instructor. Problems to include extended learning in specialized areas. This is an opportunity for the student to go into an area of his interest in more depth. Some special areas will include engines, transmissions, carburetors, electrical systems, air conditioning, front end alignment, and brake service. The student will select one or more topics of his interest and plan a study of the area in depth.

Prerequisite: Approval by Automotive Department Head.

AUT 1115 Small Engine Repair 2 4 3

A study of two and four-cycle one cylinder gasoline engines and their power trains. The student will be taught preventative maintenance, troubleshooting, and repair of the typical auxiliary engines used in industry. Shop periods will emphasize standard routines used in industrial applications.

Prerequisite: None.

AUT 1116 Automotive Schematics and Diagrams 1 3 2

Interpretation and reading of manufacturers' blueprints, schematic drawings, pictorials, charts, wiring diagrams, and service specifications. Basic principles of lines, views, dimensioning, and notes will be covered. Sketching will be introduced. All problems as applied to automotive trade.

Prerequisite: None.

BIOLOGY

T-BIO 101A Biology 3 6 6

A treatment of the protoplasmic concept, cell theory, and tissues. Selected plant and animal phyla will be surveyed to include the Thallophytes, Spermatophytes, Chordates, and Vertebrates. Laboratory work will stress good techniques in staining, mounting, dissection, culturing, microscopy, and other basic laboratory techniques.

Prerequisite: None.

BUSINESS

T-BUS 101 Introduction to Business 3 4 5

A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing; internal organization, and management.

Prerequisite: None.

T-BUS 102 Typing 2 3 3

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation; and manuscripts.

Prerequisite: None.

T-BUS 110 Office Machines 2 2 3

A general survey of the business and office machines. Students will

receive training in techniques, processes, operation and application of the ten-key adding machines, full keyboard adding machines, and calculators.
Prerequisite: None.

T-BUS 115 Business Law 3 0 3
A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies.
Prerequisite: None.

T-BUS 116 Business Law 3 0 3
Includes the study of laws pertaining to bailments, sales, riskbearing, partnerships, corporations, mortgages, and property rights.
Prerequisite: T-BUS 115.

T-BUS 120 Accounting I 5 6 8
Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises, to include practical application of the principles learned.
Prerequisite: T-Mat 110.

T-BUS 120A Accounting 3 6 6
A fundamental course in principles and application of accounting for students other than business majors; includes the complete accounting cycle of recording, sorting, summarizing, and analyzing typical transactions for both service and mercantile enterprises.
Prerequisite: T-MAT 100A.

T-BUS 121 Accounting II 5 6 8
Partnership and corporation accounting including a study of payroll, federal and state taxes. Emphasis is placed on the recording, summarizing, and interpreting data for management control rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems.
Prerequisite: T-BUS 120.

T-BUS 123 Business Finance 2 2 3
Financing of business units, as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing.
Prerequisite: None.

T-BUS 222 Accounting III 3 6 6
Thorough treatment of the field of general accounting, providing the necessary foundation for specialized studies that follow. The course includes among other aspects the balance sheet, income and surplus statements, fundamentals, processes of recording, cash and temporary investments, and analysis of working capital.
Prerequisite: T-BUS 121.

T-BUS 223 Accounting IV 3 6 6
Additional study of intermediate accounting with emphasis on investments, plant and equipment, intangible assets and deferred charges, long-term liabilities, paid-in capital, retained earnings, and special analytical processes.
Prerequisite: T-BUS 222.

T-BUS 229 Taxes 3 2 4
Application of federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance.
Prerequisite: T-BUS 121.

T-BUS 232 Salesmanship I 2 2 3

A study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required.
Prerequisite: None.

T-BUS 233 Salesmanship II 3 4 5

An advanced and additional study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying all fundamentals of selling. Preparation for and execution of sales demonstrations required.
Prerequisite: T-BUS 232.

T-BUS 235 Business Management 3 0 3

Principles of business management including overview of major functions of management, such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business—qualifications and requirements.
Prerequisite: None.

T-BUS 239 Marketing 5 2 6

A general survey of the field of marketing, with a detailed study of the functions, policies, and institutions involved in the marketing process.
Prerequisite: None.

T-BUS 243 Advertising 3 2 4

The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media.
Prerequisite: None.

T-BUS 271 Office Management 3 4 5

Presents the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing to solve office problems.
Prerequisite: None.

T-BUS 272 Principles of Supervision 3 0 3

Introduce the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Emphasis on securing an effective work force and the role of the supervisor. Methods of supervision are stressed.
Prerequisite: None.

BUS 1103 Small Business Operation 3 0 3

An introduction to the business world, problems of small business operation, business forms and records, financial problems, ordering and inventorying, layout of equipment, and empoyer—employee relations.
Prerequisite: None.

CHEMISTRY

T-CHM 101 Chemistry I 3 6 6

Study of the physical and chemical properties of substances, chemical changes, elements, compounds, gases, chemical combinations; weights and measurements; theory of metals; acids, bases, salts, solvents, solutions and emulsions. In addition, study of electrolytes, electrolysis and chemical mathematics.
Prerequisite: T-MAT 100A.

T-CHM 304 Chemistry II 3 4 5

General principles and theories of organic chemistry. Preparations, formulas, and properties of the most important organic compounds such as: saturated and unsaturated hydrocarbons; aromatic hydrocarbons; alcohols and phenols; ethers; carbonyl compounds; carboxylic acids; carbohydrates and proteins. Also a brief description of synthetic compounds of commercial value in addition to the main vitamins, antibiotics, and hormones.

Prerequisite: T-CHM 101.

DRAFTING & DESIGN

T-DFT 101 Technical Drafting 2 6 4

The field of drafting is introduced as the student begins study of drawing principles and practices for print reading and describing objects in the graphic language. Basic skills and techniques of drafting included are: use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning. The principles of isometric, oblique, and perspective are introduced.

Prerequisite: None.

T-DFT 102 Technical Drafting 2 6 4

The application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, and sections and conventions will be studied. Most important is the introduction of the graphical analysis of space problems. Problems of practical design elements involving points, lines, planes, and a combination of these elements shall be studied. Dimensioning practices for "details" and "working drawings", approved by the American Standards Association will also be included. Introduction is given to intersections and developments of various types of geometrical objects.

Prerequisite: T-DFT 101.

T-DFT 103 Technical Drafting 2 6 4

Intersection and developments and their practical solutions. Where applicable, model solutions accompany the problems. The various techniques employed to produce and render isometric and oblique drawings, isometric, dimetric and trimetric projections, will be included.

Prerequisite: T-DFT 101.

T-DFT 201 Technical Drafting 2 6 4

Applications and constructions of charts, graphs, and nomographs in engineering and technical data. Screw threads, springs, keys, rivets, piping, and welding symbols, methods of representing and specifying will be covered. Basic mechanisms of motion transfer, gears and cams, will be studied and drawn with emphasis on methods of specifying, calculating, dimensions, and delineating.

Prerequisite: T-DFT 101.
Corequisite: T-MAT 102.

T-DFT 204 Descriptive Geometry 2 4 4

Graphic analysis of space problems involving points, lines, planes, connectors, and a combination of these. Practical design problems will be stressed with analytical verification where applicable. Visualization shall be stressed on every problem.

Prerequisite: T-DFT 101.

T-DFT 205 Design Drafting 2 6 4

Basic design is introduced in the study of motion transfer mechanisms as they relate to power trains. Principles of design sketching, design draw-

ing, layout drafting, detailing from layouts, production drawings and simplified drafting practices constitute areas of study. Types and methods of specifying materials and workmanship are an integral part of the course.
Prerequisites: T-DFT 204, T-MAT 103, T-PHY 102.

T-DFT 206 Design Drafting II 2 6 4

Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. A written technical report, preliminary design sketches, layout drawings, detail drawings, assembly and sub-assembly drawings, pictorial drawings, exploded pictorial assembly, patent drawings and specifications are required as a part of the problem.
Prerequisite: T-DFT 205.

T-DFT 211 Mechanisms 3 2 4

Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and acceleration of points within a link mechanism; layout methods for designing cams, belts, pulleys, gears, and gear trains.
Prerequisite: T-DFT 201, T-MAT 103, T-PHY 102.

DFT 1101 Drafting 0 6 3

An introductory course in drafting for students needing a knowledge of drawing principles and practices for reading and describing objects in the graphic language. The student is expected to gain basic skills in drawing with instruments, lettering, geometrical constructions, freehand sketching, and describing objects orthographically with principal views. Freehand sketching and orthographic reading are to be emphasized.
Prerequisite: None.

DFT 1102 Drafting 0 6 3

The student continues the study of orthographic projection with applications to orthographic instrument drawing. Dimensioning procedures and practices are emphasized and the student is introduced to the "working drawing." Methods of describing complex objects with auxiliary views and/or sections and conventions are taught.
Prerequisite: DFT 1101.

DFT 1103 Drafting 0 6 3

A further study of machine shop working drawings with emphasis on problems concerning precision and limit dimensioning. Methods of fastening materials and fasteners: keys, metal fasteners, springs, and welding. Symbols will be studied and drawings will be made involving the types of fastening devices and methods. Working drawings will cover gears, cams, power trains, pulleys, belting, and drawings will be made involving these mechanisms.
Prerequisites: DFT 1101, 1102.

DFT 1120 Blueprint Reading: Maps & Sketches 2 0 2

Principles of interpreting maps, sketches, and specifications common to the electrical line trade.

ECONOMICS

T-ECO 102 Economics 3 0 3

The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, distribution, and consumption both in relation to the individual enterprise and to society at large.
Prerequisite: None.

T-ECO 104 Economics 2 2 3

Greater depth in principles of economics, including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems.
Prerequisite: T-ECO 102

ELECTRICITY

T-ELC 101 Fundamentals of Electricity 4 4 6

Elementary principles of electricity including: basic electric units, Ohm's Law, Kirchhoff's Law, network theorems, magnetics, basic electrical measuring instruments, inductance, capacitance, sine wave analysis, and non-resonant resistive, inductive and capacitive networks.
Prerequisite: None.

T-ELC 102 Fundamentals of Electricity 5 4 7

Series and parallel resonant-circuit analysis, resonant and non-resonant transformer analysis, basic diode power supply analysis, introduction to non-linear resistive control devices, and introduction to electro-mechanical devices.
Prerequisite: T-ELC 101.

ELC 1112A Direct and Alternating Current 3 12 7

A study of the electrical structure of matter and the electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. A study of direct current circuits and the sources of direct current voltage potentials. Fundamental concepts of alternating current flow and analysis of alternating current circuits.
Prerequisite: MAT 1115.

ELECTRICAL LINEMAN

ELC 1131 Electrical Lineman: Theory and Application 3 15 8

Instruction is given in elements of electricity; magnetism, static electricity, cells and batteries, the electric circuit, parallel and series circuits. The student becomes acquainted with the basic tools and materials used in this trade. Identification and use of line hardware and fittings; sorting and distribution of materials, framing poles, assembly and installation of hardware, insulators, and crossarms.
Prerequisite: Permission of instructor.

ELC 1132 Electrical Lineman: Theory and Application 3 15 8

The student receives training in pole climbing and learning the correct techniques and safe practices in manipulating tools above the ground. Installation of secondary crossarms, insulators and guys, and hanging of the distribution transformer while working on the pole. Secondary light and power transformer connections, wire splices, stringing of secondary lines, use and understanding of power standards.
Prerequisite: ELC 1131.

ELC 1133 Electrical Lineman: Theory and Practice 3 15 8

Training is given in checking loads on transformers, trouble shooting, rigging methods, ropes and knots; street light practices, repairing and replacing electrical apparatus, circuits, lamps, glassware, refractors, control of street lights, trouble shooting regulations and safety practices. A study of transformers, types, construction, markings, connections, oil, insulation, cooling, loading and testing; line practices; field practices; operating orders and clearances; general information needed for string standards and tower line assemblies.
Prerequisite: ELC 1132.

ELC 1134 Electrical Apparatus 2 3 3

This course deals with the basic electrical apparatus used in the line trade. Instruction will be given in use of transformers, regulators, switches, capacitors, sectionalizers, breakers, arrestors, cutouts and fuses. Laboratory experiences with this equipment will supplement classroom theory.
Prerequisite: Permission of instructor.

ELC 1141 First Aid 2 0 2

This is a standard American Red Cross emergency first aid course. It deals with emergency first aid and safe working practices applied to the Electrical Lineman. It is designed to qualify each student of a Red Cross First Aid Card.
Prerequisite: Permission of instructor.

ELC 1142 First Aid—Advanced 2 0 2

This is the advanced American Red Cross First Aid course. It deals with field practice of first aid for the electrical lineman. It is designed to qualify each student for the Advanced Red Cross First Aid Card.

ELC 1143 Electrical Safety Codes 2 0 2

This is a study and interpretation of the state and national safety codes for outside poles, structures and line construction.
Prerequisite: Permission of instructor.

ELC 1144 Electrical Safety Codes 2 0 2

A continued study of Electrical Safety Codes for installation and repair of outside poles, structures and lines.
Prerequisite: ELC 1143.

ELECTROMECHANICAL

EMS 1101 Industrial Maintenance Shop Practice 3 9 6

An introduction to the nature of the work required of an industrial maintenance mechanic and his role in industry. This course will deal with identification, care, and use of basic hand tools used by a maintenance mechanic, portable power tools, and measuring devices. Special tools and holding devices will be produced. Methods of bending and forming industrial pipe, tubing, and conduit will be learned along with threading operations. Benchwork such as filing, shaping, and forming metal shapes will be practiced. Good housekeeping and safety shop practices will be stressed.
Prerequisite: None.

EMS 1103 Electromechanical Systems II 3 12 7

A continuation study of electromechanical devices and systems with special emphasis on pressure and vacuum gages, pumps, blowers, control signals and devices, electromechanical valves, and electronic mechanisms that automatically operate machinery. Mock-ups will be built to study the different types of devices and systems. Measuring and testing equipment common to electromechanical equipment will be stressed.
Prerequisite: EMS 1102.

ELECTRONIC DATA PROCESSING

T-EDP 104 Introduction to Data Processing Systems 2 2 3

Fundamental concepts and operational principles of data processing systems, as an aid in developing a basic knowledge of computers, prerequisite to the detail study of particular computer problems.
Prerequisite: T-BUS 102 or equivalent.

ELECTRONICS

T-ELN 101 Electronic Instruments and Measurements 1 4 3

A study of basic electronic instruments, their theory of operation, function, tolerances, and calibration. Both service and laboratory instruments shall be studied. Laboratory experience will provide application of each type instrument studied.

Prerequisite: T-ELC 101.
Corequisite: T-ELC 102.

T-ELN 105 Control Devices 5 6 8

A study in depth of the electrical characteristics of vacuum tubes and transistors. Basic parameters and applications of each type device to the three configurations of a three terminal two port system will be included.

Prerequisite: T-ELC 102.

T-ELN 205 Applications of Vacuum Tubes and Transistors 5 6 8

Practical applications of vacuum tubes and transistors to basic audio amplifiers, radio frequency amplifiers, detectors, modulators and oscillators.

Prerequisite: T-ELN 105.

T-ELN 210 Semiconductor Circuit Analysis 5 3 6

A study in some depth of the analysis and design of transistor circuits. Network theorems and equivalent circuits are used extensively in evaluating total circuit performance. Device peculiarities and limitations pertinent to reliable operations are considered. H. Y. Z. and T. parameters are employed as well as signal-flow graphs.

Prerequisite: T-ELN 105

T-ELN 214 Wave Shaping and Pulse Circuits 2 3 3

Broadband amplifiers, magnetic amplifiers, multivibrators, wave shaping techniques, chopper amplifiers, clipper and calmper circuits.

Prerequisites: T-ELN 105, T-MAT 102

T-ELN 215 Wave Shaping and Pulse Circuits 2 3 3

Pulse techniques, diode switches, gates, step-counters, restorers and other specific circuits which function as switches.

Prerequisite: T-ELN 214.

T-ELN 220 Electronic Systems 5 4 7

A block diagram course investigating numerous electronic systems. Modules or blocks of various circuits already studied are arranged in various manners to produce complex electronic systems. Systems will be explained and reduced to functions and then to block diagrams. Am, Fm, and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, computers, telemetry, navigational systems, sonar and radar will be considered.

Corequisite: T-ELN 215.

T-ELN 225 Transmission and Propagation 3 0 3

An introduction to the electromagnetic radiation, principles of antenna, radiation patterns and field strength. The characteristics and use of transmission lines in radio frequency application. Factors involved in propagation, ground waves, reflections, sky waves, atmospheric effects, ionosphere, fading, noise, static, wire radiators, directive gain, effect of ground, impedence, antenna systems and arrays.

Prerequisite: T-ELN 105

T-ELN 227 UHF & Microwave 5 4 7

A study of UHF and VHF components, circuits, and measurement techniques. The use of distributed constant elements, waveguides and coaxial cables, microwave links, high frequency oscillators, magnetrons, klystrons, traveling wave tubes. An introduction to the use of the Smith chart.
Prerequisite: T-ELN 214.
Corequisite: T-ELN 225.

T-ELN 231 Electronic Communication 4 2 5

A study of basic electronics and application of electronics. Covers fundamentals of radio receivers, transmitters, radiotelephone, and all information required for passing FCC tests for various classes.

ENGLISH

T-ENG 101 Grammar 3 0 3

Designed to aid the student in the improvement of self-expression in grammar. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. Intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life.
Prerequisite: None

T-ENG 102 Composition 3 0 3

Designed to aid the student in the improvement of self-expression in business and technical composition. Emphasis is on the sentence, paragraph and whole composition.
Prerequisite: T-ENG 101.

T-ENG 103 Report Writing 3 0 3

The fundamentals of English are utilized as a background for the organization and techniques of modern report writing. Exercises in developing typical reports, using writing techniques and graphic devices are completed by the students. Practical application in the preparation of a full-length report is required of each student at the end of the term. This report must have to do with something in his chosen curriculum.
Prerequisite: T-ENG 102.

T-ENG 204 Oral Communication 3 0 3

A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention given to conducting meetings, conferences, and interviews.
Prerequisite: T-ENG 101.

T-ENG 206 Business Communications 3 0 3

Develops skills in techniques in writing business communications. Emphasis is placed on writing action-getting sales letters and prospectuses. Business reports, summaries of business conferences, letters involving credit, collections, adjustments, complaints, orders, acknowledgements, remittances, and injury.
Prerequisite: T-ENG 102.

ENG 1101 Reading Improvement 3 0 3

Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of recog-

nition, to increase eye coordination and word group recognition, and to train for comprehension in larger units.
Prerequisite: None.

ENG 1102 Communicative Skills 3 0 3

Designed to promote effective communication through correct language usage in speaking and writing.
Prerequisite: ENG 1101.

INDUSTRIAL SCIENCE

T-ISC 202 Quality Control 3 2 4

Principles and techniques of quality control and cost saving. Organization and procedures for efficient quality control. Functions, responsibilities, structure, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests for significance.
Prerequisite: None.

T-ISC 203 Motion Study 3 2 4

Types of methods studies and their applications. Process charts, analysis sheets, time study, work simplification, skill and effort rating.
Prerequisite: None.

MATHEMATICS

T-MAT 100A Fundamentals of Technical Mathematics 5 0 5

The course is designed for students in the agricultural and medical programs. Development of the number system is emphasized as well as the explanation of all laws in the field. Major emphasis is applied in the following areas: Metric and British systems of measurement, ratio and proportions, percentages, mixtures and solutions, as well as elementary equations in algebra. The application of such topics is constantly impressed upon the student.
Prerequisite: None.

T-MAT 101 Technical Mathematics 5 0 5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system, as well as fundamental trigonometric concepts and operations are introduced. The application of these principles to practical problems is stressed.
Prerequisite: T-MAT 100 or satisfactory evidence of proficiency.

T-MAT 102 Technical Mathematics 5 0 5

A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, determinants, progressions, the binominal expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions are studied in depth.
Prerequisite: T-MAT 101.

T-MAT 103 Technical Mathematics 5 0 5

The fundamental concepts of analytical geometry, differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, the integral and basic integration techniques. Applications of these concepts to practical situations are stressed.
Prerequisite: T-MAT 102.

T-MAT 110 Business Mathematics 3 4 5

This course stresses the fundamental operations and their application to business problems. Topics covered include payrolls, price making, interest and discount, commission, taxes, and pertinent uses of mathematics in the field of business. Prerequisite: None.

T-MAT 214 Statistics 3 4 5

The theory of statistics and its application in modern business. Kinds of regularity that exist among random fluctuations. Experience in associating and using mathematical models to interpret physical phenomena and predicting the outcomes of experiments related to practical business problems.

Prerequisite: None.

MAT 1101 Fundamentals of Mathematics 5 0 5

Practical number theory. Analysis of basic operations: addition, subtraction, multiplication, and division. Fractions, decimals, powers and roots, percentages, ratio and proporation. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Introduction to algebra used in trades. Practice in depth. Prerequisite: None.

MAT 1103 Geometry 5 0 5

Fundamental properties and definitions; plane and solid geometric figures; selected general theorems; geometric construction of lines, angles, and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles are applied to shop operations.

Prerequisite: None.

MAT 1115 Electrical Mathematics 5 0 5

A study of fundamental concepts of algebra; solution of first order equations, use of letters and signs, grouping, factoring, exponents, ratios and proportions; solution of equations, algebraically and graphically; a study of logarithms and use of tables; an introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current.

Prerequisite: MAT 1101.

MAT 1122 Electrical Lineman Mathematics 3 0 3

This course provides practical problem material for electrical students with an introduction to algebraic formulas, plane geometry, and elementary trigonometry. Emphasis is placed on applications of problems which are arranged in the natural order of dependence of one topic on the next.

MAT 1123A Machinist Mathematics 5 0 5

Gear ratio, lead screw and indexing problems with emphasis on application to the machine shop. Practical applications and problems in geometric propositions and trigonometric relations to shop problems; introduction to compound angle problems.

Prerequisite: None.

MECHANICAL

T-MEC 101 Machine Processes 2 6 4

An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals

and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring, and reaming.
Prerequisite: None.

T-MEC 102 Machine Processes 2 6 4
Advanced operations on lathe, drilling, boring and reaming machines. Milling machine theory and practice. Thorough study of the types of milling machines, cutters, jig and fixtures devices, and the accessories used in a modern industrial plant. Safety in the operational shop is stressed.
Prerequisite: T-MEC 101.

T-MEC 205 Strength of Materials 3 2 4
Study of principles and analysis of stresses which occur within machine and structure elements subjected to various types of loads such a static, impact, varying and dynamic. Analyses of these stresses are made as applied to thin-walled cylinders and spheres, riveted and welded joints, beams, columns and machine components.
Prerequisites: T-PHY 106, T-MAT 102.

T-MEC 210 Physical Metallurgy 3 3 4
Introductory course in metallurgy, a basic study of the properties of metals and alloys. Analysis of the structure of metals and alloys, atomic structure, nuclear structure, and nuclear reactions. Solid (crystalline) structures, methods of designating crystal planes; liquid and vapor phases; phase diagrams; and alloy systems.
Prerequisite: T-PHY 101.

T-MEC 211 Physical Metallurgy 3 3 4
Properties of metals and alloys, the reactions of metals, diffusion, carburizing, metal bonding and homogenization; recrystallization and grain growth, age hardening, nitriding, internal oxidation; heat treatment of steel; laboratory experiments and demonstrations.
Prerequisite: T-MEC 210.

T-MEC 214 Tool Engineering I 2 4 4
An introduction to the problems of tool engineering with emphasis on the family of cutting tools. Involved in this is the effect of tool geometry, cutting, angles, materials, (carbon and high speed) tool wear, machinability, and work holding devices.
Prerequisite: T-DFT 201.
Corequisite: T-MEC 211.

T-MEC 215 Tool Engineering II 2 4 4
This continuation of Tool Engineering includes a study of the principles of location, clamping, design of tools for inspection and gaging, joining processes, and casting. It also draws attention to machine and bench fixtures, texturing for numerical control.
Prerequisite: T-MEC 214.

MEC 1101 Machine Tool Theory and Practice 3 9 6
An introduction to the basic machine tool operations; namely, turning, sawing, drilling, grinding, and milling. Identification, care, and use of precision hand and measuring tools. Layout and processes of the engine lathe, drill press, grinding (off-hand), power saw, and the milling machine will be covered both in theory and practice.
Prerequisite: None.

MEC 1102 Machine Tool Theory & Practice 3 9 6
Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine, and shaper. The student will be introduced to the basic operations on the cylindrical grinder and will select

projects encompassing all the operations, tools, and procedures thus far used and those to be stressed throughout the course.

Prerequisite: MEC 1101.

MEC 1103 Machine Tool Theory & Practice 3 9 6

Advanced work on the engine lathe, turning, boring, and threading machines, grinders, milling machine and shaper. Introduction to basic indexing and terminology with additional processes on calculating, cutting, and measuring of spur, helical, and worm gears and wheels. The trainee will use precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises will be given on the turret lathe and on the tool and cutter grinder.

Prerequisite: MEC 1102.

MEC 1104 Machine Tool Theory and Practice: Special Tools 3 9 6

The student will study the special machine tools designed for high production and automatic operations. Emphasis will be stressed on working to closer tolerances and the application of special tooling used in the manufacturing process. The numerically controlled machine tool will be introduced and class projects will be produced on a numerically controlled milling machine.

MEC 1105 Tool Making: Introduction 2 6 4

An introduction to the tool making trade and the tool maker's role in modern day industry. Emphasis will be stressed on development of good work habits and attitudes acceptable to the industry. The student will construct simple gages and special tools. This is a preparatory course for all future courses in tool making.

Prerequisites: MEC 1101, 1102, 1103, 1104, or equivalent in work experience.

MEC 1106 Tool Making: Jigs and Fixtures 3 12 7

The student will repair and construct jigs and fixtures using previous knowledge of machine tool operation, layout, fitting, and assembling parts.

Prerequisite: MEC 1105.

MEC 1107 Die Making I: Introduction 3 9 6

The tool maker works very closely with the die maker and in some small plants, their duties overlap. For this reason, it is felt that instruction in repair and manufacture of simple dies would be in order. This introductory course would cover primarily the basic principles of die making and maintenance and repair of simple, single-stage, shearing and punching dies.

Prerequisites: MEC 1101, 1102, 1103, 1104, or equivalent in work experience.

MEC 1108 Tool Making: Gages and Special Tools 3 9 6

This course is the third in a series of tool making courses. Additional learning experiences in the construction of jigs and fixtures will be covered with special emphasis on making special gages, measuring devices, and special hand tools.

Prerequisite: MEC 1106.

MEC 1109 Die Making II 3 9 6

This course is the second in a series of die making courses. The student will construct single-stage shearing and punching dies. The importance of quality workmanship as related to the competitive manufacturing system and factors constituting product cost will be stressed.

Prerequisite: MEC 1107.

MEC 1110 Heat Treating 2 4 3

This course covers the theory and practice of heat treatments of ferrous

and nonferrous metals with special emphasis on heat treatment as related to gages, tooling, and dies.
Prerequisite: Course work in ferrous and non-ferrous metals or equivalent work experience.

MEC 1112 Machine Shop 2 4 3
An introduction to the machine shop as related to the automotive trade. Deals primarily with the identification, care, and use of basic machine shop tools and off-hand grinding of drill bits and automotive shop tools. Elementary layout and practice jobs using the lathe, drill press, and the milling machine will be introduced.
Prerequisite: None.

MEC 1115 Treatment of Ferrous Metals 3 3 4
Investigates the properties of ferrous metals and tests to determine their uses. Instructions will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron will be topics for study.
Prerequisite: None.

MEC 1116 Treatment of Non-Ferrous Metals 3 3 4
The student investigates the properties and characteristics of non-ferrous metals and strength tests to determine their uses. The non-ferrous metals: heavy metals (brass, bronze, lead), light metals (aluminum and magnesium), and copper and its alloys are studied. Basic welding used for joining non-ferrous metals will be introduced.
Prerequisite: None.

MEC 1117 Treatment of Metals 3 3 4
A study of the properties of ferrous and non-ferrous metals, alloys, castings, and heat treating as applied to the maintenance mechanics needs.
Prerequisite: None.

PHYSICS

T-PHY 101 Physics: Properties of Matter 3 2 4
A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids at rest and in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.
Prerequisite: None.

T-PHY 102 Physics 3 2 4
Major areas covered in this course are work, energy, and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas.
Prerequisite: T-MAT 100.

T-PHY 103 Physics: Electricity 3 2 4
Basic theories of electricity, types of electricity, methods of production, and transmission and transforming of electricity. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism,

induction voltage, amperage, resistance, horsepower, wattage, and transformers are major parts of the course.
Prerequisites: T-MAT 100.

T-PHY 104 Physics 3 2 4
A survey of the concepts involving wave motion leads to a study of sound, it's generation, transmission and detection. The principles of wave motion also serve as an introduction to a study of light, illumination and the principles involved in optical instruments. Application is stressed throughout.
Prerequisite: T-MAT 100

T-PHY 106 Applied Mechanics 5 0 5
Concepts and principles of statics and dynamics. Parallel concurrent and non-concurrent force systems in coplanar and noncoplanar situations. Concepts of centroids and center of gravity, moments of inertia, fundamentals of kinetics, and kinematics of velocity and motion.
Prerequisites: T-MAT 102, T-PHY 102.

PHY 1101 Applied Science 3 2 4
An introduction to physical principles and their application in industry. Topics in this course include measurement; properties of solids, liquids, and gases; basic electrical principles.
Prerequisite: None.

PHY 1102 Applied Science 3 2 4
The second in a series of two courses of applied physical principles. Topics introduced in this course are heat and thermometry, and principles of force, motion, work, energy, and power.
Prerequisite: PHY 1101.

POLICE SCIENCE

T-PSC 101 Introduction to Law Enforcement 5 0 5
A general course designed to familiarize the student with a philosophy and history of law enforcement, including its legal limitations in a democratic republic, a survey of the primary duties and responsibilities of the various law enforcement agencies, a delineation of the basic processes of justice, an evaluation of law enforcement's current position, and an orientation relative to law enforcement as a vocation.
Prerequisite: None.

T-PSC 110 Police Role in Crime and Delinquency 5 0 5
The study primarily concerned with scientific efforts to understand crime and to understand man in relation to crime phenomena. It deals with those definitions and formulations of crime and criminals upon which an adaptation system of criminology must be based. It examines the law as the basic framework within which social deviations of a peculiar character assume their functions as criminal acts and those broad principles upon which a science of criminology must rest.
Prerequisite: None.

T-PSC 115 Criminal Law 5 0 5
Designed to present a basic concept of criminal law and create an appreciation of the rules under which one lives in our system of government.
Prerequisite: None.

T-PSC 201 Traffic Planning and Management 4 2 5

A study which covers the history of the traffic enforcement problem and gives an overview of the problem as it exists today. Attention will be given to the 3 E;s and legislation, the organization of the traffic unit, the responsibilities to the traffic function of the various units within the law enforcement agency, enforcement tactics, evaluation of the traffic program effectiveness, and the allocation of men and materials.

Prerequisite: None.

T-PSC 205 Criminal Evidence 5 0 5

Instruction covers the kinds and degrees of evidence and the rules governing the admissibility of evidence in court.

Prerequisite: T-PSC 115.

T-PSC 210 Criminal Investigation 5 0 5

This course introduced the student to fundamentals of investigation; crime scene search; recording, collection and preservation of evidence; sources of information; interview and interrogation; case preparation and court presentation; and the investigation of specific offenses such as arson, narcotics, sex, larceny, burglary, robbery and homicide.

Prerequisite: Admission to the program and permission of the instructor-coordinator.

T-PSC 211 Introduction to Criminalistics 4 3 5

Continuation of the study of criminal investigation including a general survey of the methods and techniques used in modern scientific investigation of crime, with emphasis upon the practical use of these methods by the students. Laboratory techniques will be demonstrated and the student will participate in actual use of the scientific equipment.

Prerequisite: Admission to the program; permission of instructor-coordinator; satisfactory completion of T-PSC 210.

T-PSC 220 Police Organization & Management 5 0 5

Introduction to principles of organization and administration, discussion of the service functions; e.g., personnel management, police management, training, communications, records, property maintenance and miscellaneous services.

Prerequisite: None.

T-PSC 225 Criminal Procedure 5 0 5

This course is designed to provide the student with a review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state and civil laws as they apply to and affect law enforcement.

Prerequisite:

POLITICAL SCIENCE

T-POL 102 Government—National 5 0 5

English and colonial background, the articles of confederation and the framing of the federal constitution. The nature of the federal union; state rights, federal powers, political parties. The general organization and functioning of the national government.

Prerequisite: None.

T-POL 103 Government—State and Local 5 0 5

A study of state and local government, state-federal interrelationships, the functions and prerogatives of the branches. Problems of administration, legal procedures, law enforcement, police power, taxation, revenues and appropriations. Special attention will be given to North Carolina.

Prerequisite: T-POL 102.

T-POL 201 United States Government 3 0 3

A study of government with emphasis on basic concepts, structure, powers, procedures and problems.

Prerequisite: None.

PRACTICAL NURSE EDUCATION

Practical Nursing I 18 5 20

Assists beginning students in practical nursing to acquire basic knowledge from nursing and related areas of learning and to begin to develop the skills needed for safe and effective bedside care of patients whose health deviation has created a state of dependency in matters of daily living. Areas of instruction include:

Nursing—History
    Introduction to patient care
Health—Personal, physical and mental
    Family
    Community
Basic Science—Body structure and function
    Bacteriology
    Basic nutrition
Vocational Adjustments—Introduction to ethics and legal aspects of nursing
Communications and Human Relations
Prerequisite: Practical Nursing I.

Practical Nursing II 12 23 20

Assists practical nursing students to acquire further knowledge and understanding and to develop further skills needed for rendering safe and effective nursing care to patients of all ages. Areas of instruction include:

Medical-Surgical Nursing—Patient care
    Therapeutic Methods, including administration of oral medication.
Introduction to Maternity Nursing
Introduction to Nursing the Sick Child
Communications and Human Relations

Practical Nursing III 10 26 19

Assists practical nursing students to acquire knowledge of common disease conditions and to develop beginning skills in rendering safe and effective nursing care to patients of all ages with specific needs arising from the illness and/or therapy. Areas of instruction include:

Common Medical-Surgical Conditions
Care of the Subacutely Ill Child
Care of the Maternity Patient and Newborn Infant with Complications
Prerequisite: Practical Nursing II.

Practical Nursing IV 10 26 19

Assists advanced practical nursing students to acquire knowledge of needs of patients who are seriously ill, too develop beginning skills in assisting the registered nurse and/or physician in complex nursing situations, and to make the transition to the role of graduate practical nurse. Areas of instruction include:

Needs of the Seriously Ill Patient
Needs of Patients in Immediate Post-Operative Period
Needs of the Labor Patient
Needs of the Seriously Ill Child
Assuming the Role of Graduate Practical Nurse
Prerequisite: Practical Nursing III.

PSYCHOLOGY

T-PSY 102 General Psychology 5 0 5

A study of the various fields of psychology; the developmental process; motivation; emotion; frustration and adjustment; mental health; attention and perception; problems of group living. Attention is given to applications of these topics to problems of study, self-understanding and adjustment to the demands of society.

Prerequisite: None.

T-PSY 103 Adolescent Psychology 5 0 5

A study of the nature and source of the problems of adolescents in western culture; physical, emotional, social, intellectual and personality development of adolescents.

Prerequisite: T-PSY 102.

T-PSY 206 Applied Psychology 3 0 3

A study of the principles of psychology that will be of assistance in the understanding of inter-personal relations on the job. Motivation, feelings, and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.

Prerequisite: None.

SOCIAL SCIENCE

T-SSC 201 Social Science 3 0 3

An integrated course in the social sciences, drawing from the fields of anthropology, psychology, history, and sociology.

Prerequisite: None.

T-SSC 202 Social Science 3 0 3

A further study of social science with emphasis on economics, political science, and social problems as they relate to the individual.

Prerequisite: T-SSC 201.

T-SSC 205 American Institutions 3 0 3

A study of the effect of American social, economic, and political institutions upon the individual as a citizen and as a worker. The course dwells upon current local, national, and global problems viewed in the light of our political and economic heritage.

Prerequisite: None.

SOCIOLOGY

T-SOC 102 Principles of Sociology 5 0 5

An introductory course in the principles of sociology. An attempt to provide an understanding of culture, collective behavior, community life, social institutions and social change. Presents the scientific study of man's behavior in relation to other men, the general laws affecting the organization of such relationships and the effects of social life on human personality and behavior.

Prerequisite: None.

T-SOC 207 Rural Society 3 0 3

A study of selected elements of rural sociology with emphasis on current social changes. The course provides a sociological background for the understanding of rural social changes. Areas of study include rural culture, group relationships, social classes, rural and suburban communities, farm organizations, the communication of agricultural technology, rural social problems, agricultural adjustment and population change.

WELDING

WLD 1101A Welding 2 4 3

A study of electric welding, oxacetylene welding, and cutting applicable to the automotive trade. Students will practice welding and cutting techniques on automotive problems and learn to perform mechanical testing and inspection to determine quality of the work. Brazing and hard and soft soldering will be covered.

Prerequisite: DFT 1102.

WLD 1124 Welding II 3 9 6

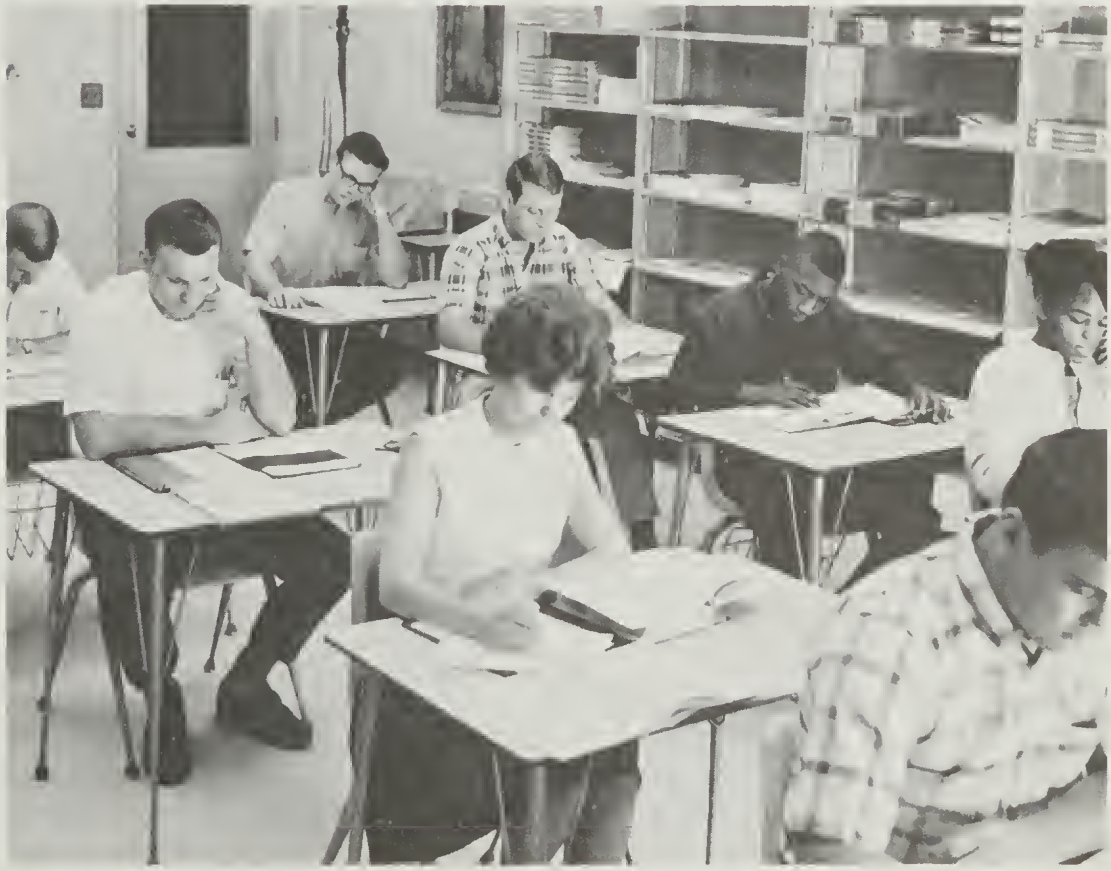
A continuation study of electric and oxyacetylene welding with increased emphasis on brazing, hard and soft soldering, and the wire and inert gas machines such as the Tig and Mig welders.

Prerequisite: WLD 1126.

WLD 1126 Welding I 3 9 6

A study and practice in electric welding, oxyacetylene welding, and oxyacetylene cutting applicable to equipment and machine repair. The student will practice running beads, butt and fillet welds in all positions on flat, structural, and cylindrical shapes. Students perform mechanical testing and inspection to determine quality of the welds.

Prerequisite: None.



ADULT HIGH SCHOOL DIPLOMA

The Department of Community College in cooperation with the Department of Public Instruction has established procedures whereby adults heretofore deprived of the opportunity of completing high school, may do so, and receive a diploma for same.

This arrangement is contingent upon an agreement of affiliation between the Technical Institute in question and the local high school. Central Carolina Technical Institute now has signed agreements of this nature with the following high school systems; Sanford City Schools, Lee County Schools, and Chatham County Schools. This means that when the adult student has completed the necessary studies at Central Carolina Technical Institute Learning Lab (or in classes set up for this purpose) he or she is then given an adult high school diploma by whichever of the above mentioned high school systems is appropriate.

ADULT EDUCATION

In addition to preparing students for initial employment, the Center is designed to meet the needs of adults for education in: the basic reading, writing, and arithmetic subjects needed to complete formal school education; avocational areas, and any other areas which are useful or of interest to the adult and his or her community.

Courses in general adult education and community services include, but are not limited to:

Consumer Education
Homemaking
Parent Education
Family Life
Industrial Arts
Academic Elementary Grades 1-8
Citizenship
Health and Safety
Creative Arts
Foreign Languages
Language Arts
Academic High School Grades 8-12
Discussion Groups

Requirements for admission are:

> Admission requirements may vary with specific courses—these may be determined by contacting the Director of Adult Education at the Institute. Most programs do not have admission requirements other than the general age level—high school graduates or school-leavers 18 years of age or over.

Expenses vary with the course(s) undertaken, but may include, as a minimum, those charges incidental to instructional supplies, textbooks, and other materials when these are used. All costs of avocational instruction must be borne by students.

THE FUNDAMENTALS LEARNING LABORATORY

The Fundamentals Learning Laboratory has a threefold function. Its primary function is to prepare students for high school certificates. Its second function is to prepare high school graduates for entrance into institutions of higher learning, and its third function is to offer courses to persons who are interested in studying for personal or occupational improvement.

Practically every academic skill or subject that is taught from the elementary school level through early college level is being offered by the laboratory. All the courses of study are auto-instructional, commonly referred to as programmed materials.

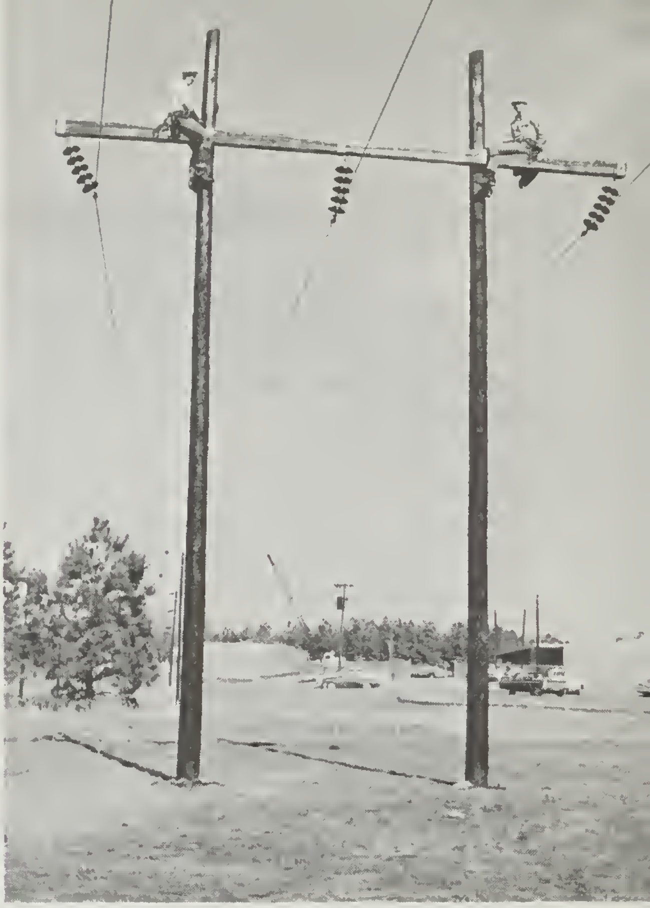
In these materials is a much different teaching pattern than is normally found in a regular classroom. The courses of study appear in both book and machine formats. The course of study, or program, presents a body of knowledge in a sequence of steps called frames: each of these steps adds a bit to what the student already knows, and requires that the students respond to show that he has acquired the new knowledge. A bit of the already acquired knowledge is integrated into the new frame: thus, a correct response is almost always assured. The correctness of response is immediately verified and the student proceeds to the next frame. Upon completion of a set of frames (usually several hundred) that teach a full concept, a test is provided to check on comprehension and retention of facts of that part of the program. Similarly, a final examination of the entire program checks comprehension of the subject.

The "Laboratory" opens its doors at 8:00 in the morning and remains open until 10:00 in the evening. Attendance is greatest at night because most students are working during the day. However, a number of students attend during the morning and afternoon hours because they are employed on second and third shifts.

At the initial interview the prospective student is given an explanation of the nature of the learning materials, how the "lab" operates, and what is expected of him.

The next step includes placement exercises or tests which show how much the student already knows in the areas in which he plans to study. Once the student and the coordinator knows where the student is academically, and where he wishes to go vocationally, he is then placed in the materials and goes to work. From this point on the student is on his own. The coordinator is present to help the student only when he encounters difficulties with the mechanics of the program, and to assure that the student is supplied sufficient materials to allow him to reach his goal.

In summary, it can be said that the student steers his own course. Opposed to his previous school experiences, he no longer relies on the teacher to provide him with the essential subject matter. The responsibility for his accomplishments rests entirely on him. The coordinator stands by to direct him through the shortest possible list of learning tasks which will gain his objectives.



THE EXTENSION PROGRAM

EXTENSION COURSE

An "extension course" may be defined as a part-time course which does not count toward a diploma or degree, but for which a certificate of completion may be given. Extension courses may be academic, technical, vocational or for general self-improvement.

ADMISSION REQUIREMENTS

Occupational educational extension courses are designed to serve adults who are employed or are seeking employment at the skilled, technical and sub-professional levels. Any adult 18 years old or older who needs training or re-training, or who can otherwise profit from the proposed course, may be enrolled. Enrollees who are employed normally attend training during their non-working hours to increase their skills and understandings, to improve their competency and qualify for advancement.

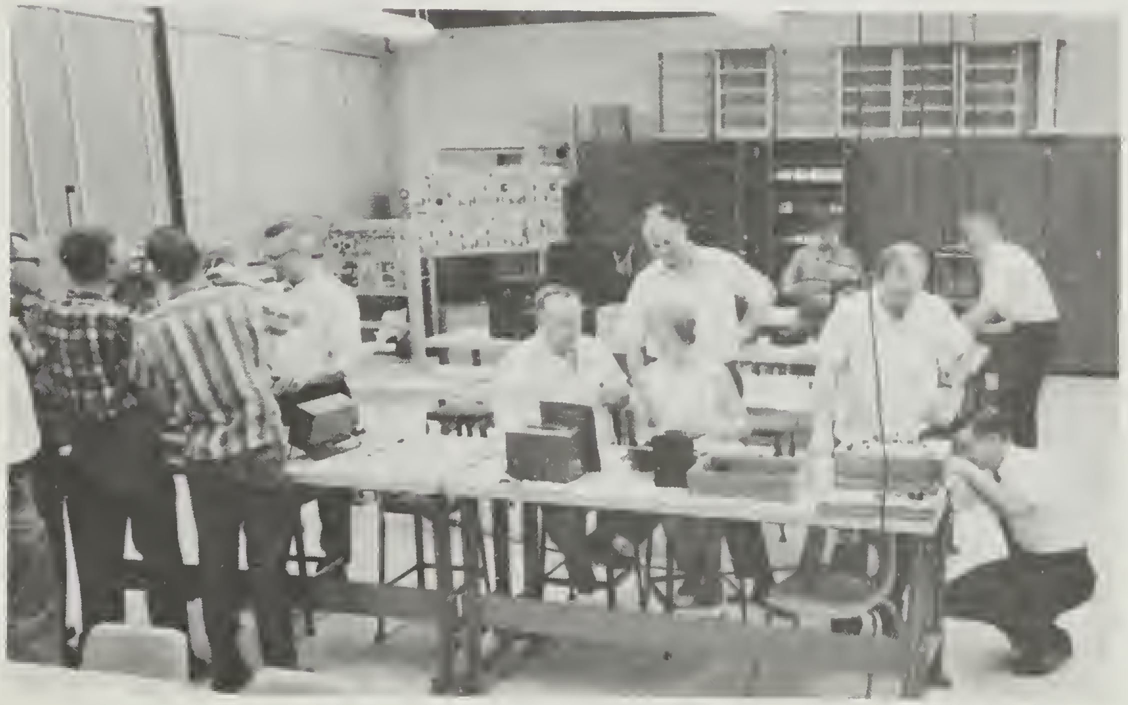
PROGRAM COURSES

Courses are taught both at and away from the Institute. They may be single subjects or groups of related subjects. The following type classes fall into the extension category:

Firemanship Training
Police Training
Community Services
New Industry Training
Nursing Education
Supervisory Development Training
Job Safety Training for Telephone Companies
Distributive Education
Vocational and Technical Courses

A brochure containing a complete list of suggested extension courses may be obtained by request to the Director of Extension.

Though the list is very comprehensive, offerings are not limited to only those listed. Each extension program is offered to meet the demands of a community. In general, any subject can be presented, provided an instructor can be obtained and 10 or more students are enrolled.



EXTENSION

Sewing

Typewriter Repair

Attach Photograph Here
(Year Taken)

CENTRAL CAROLINA TECHNICAL INSTITUTE

ROUTE 2, BOX 27
SANFORD, NORTH CAROLINA 27330

(Please Print or Type)

STUDENT APPLICATION FORM

PERSONAL

NAME ☐ Mr. ☐ Mrs. ☐ Miss	(Last)	(First)	(Middle)	(Maiden Name if Married)

ADDRESS	(Street or R.F.D.)	(City)	(County)	(State)	(Home Phone)

Date of Application	Date of Birth	Age	Race	Sex	Social Security Number

MARITAL STATUS	☐ Single	☐ Married	☐ Number of Children
	☐ Separated	☐ Divorced	☐ Widowed

ADDRESS	(Street or R.F.D.)	(City)	(County)	(State)

If Single, Give Parent's Name and Address

If Married, Give Wife or Husband's Name and Address

WORK AND REFERENCES

List Two Persons Who Know You	Address	How Long Have They Known You
1.		
2.		

Last Two Places Employed	Occupation	Shift	Yr. Started	Yr. Stopped	Yrs. Worked
1.					
2.					

EDUCATION

Last High School Attended and Address	Graduated	Expect to Graduate
	Mo.............. Yr..............	Mo.................. Yr..................

College(s) Attended	Length Attended
	Semesters.......................... Quarters..........................

Circle Highest Grade Completed: 6 7 8 9 10 11 12 13 14 15 16

Check Below Program You Wish to Study While at Central Carolina Technical Institute.

A. TECHNICAL DEGREE PROGRAMS

AGRICULTURE

- ☐ Agricultural Business
- ☐ Animal Hospital (Vet. Asst.)

BUSINESS EDUCATION

- ☐ Business Administration

ENGINEERING

- ☐ Electronics
- ☐ Drafting and Design
- ☐ Manufacturing Engineer

Other (Specify)..

B. VOCATIONAL TRADE PROGRAMS

- ☐ Automotive Mechanics
- ☐ Heating, Air-Conditioning and Refrigeration
- ☐ Electric Linesman
- ☐ Machinist Trade
- ☐ Welding

Other (Specify)..

C. HEALTH OCCUPATIONS

- ☐ Practical Nurse Education

Other (Specify)..

CHECK QUARTER EXPECT TO ENTER ☐ Fall ☐ Winter ☐ Spring ☐ Summer of 19............

CHECK SUBJECTS THAT YOU COMPLETED IN HIGH SCHOOL / COLLEGE / OTHER.

☐ Agriculture I, II, III	☐ General Math	☐ Calculus	☐ Physics	☐ Bookkeeping
☐ Algebra I, II, III	☐ Geometry	☐ Chemistry	☐ Shorthand	☐ Typing I, II, III

Signature ______________________________

FOR OFFICE USE ONLY

TEST SCHEDULE										
TEST NAME	DATE	SCORES								
		G	V	N	S	P	Q	K	F	M
G A T B										

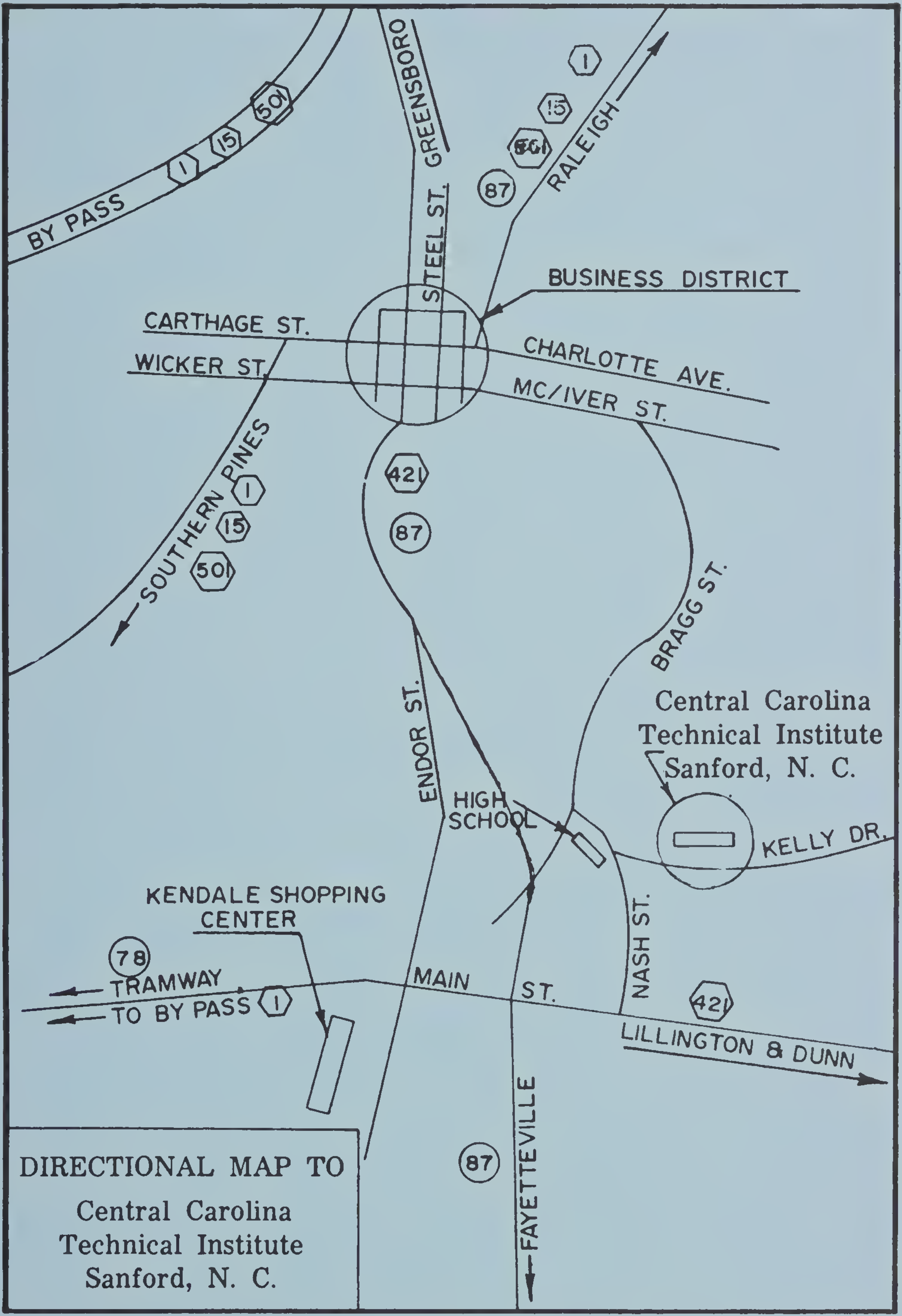
DATE	ACTION	INITIALS & OR REMARKS
	Application received	
	References asked	
	References received	
	High School transcript asked	
	High School transcript received	
	Admission Committee:	
	Accepted	
	Rejected	
	Hold	

I hereby authorize Central Carolina Technical Institute to send transcript of my records to any prospective employer or institution who may request same, unless specifically prohibited, in writing, by me.

(Signature of Student) (Date)

Transcript sent to:

STATE LIBRARY OF NORTH CAROLINA
3 3091 00823 1789



DIRECTIONAL MAP TO
Central Carolina
Technical Institute
Sanford, N. C.